



Fluid Control Research Institute, Kanjikode West, Palakkad
Tender Document – Interactive design, development of motor

TECHNICAL SPECIFICATIONS

A. INTERACTIVE DESIGN, DEVELOPMENT OF MOTOR

FLUID CONTROL RESEARCH INSTITUTE

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1. Scope of Work

The scope of work shall include interactive design, manufacture, inspection, non-destructive testing, painting, assembly, works testing, protective packaging and supply of special electrical motors with suitable built in safety mechanisms such as intrinsic safety, increased safety etc for submerged service, support frames, fasteners, handling frame etc. Design and manufacture in accordance with the quality requirements of relevant National / International Standards.

SI No	Description	Qty	Unit
1	Interactive design, development , manufacture, inspection, non-destructive testing of vertical mounted flanged motor of 350 kW rating with all accessories such as lubricating pumps etc , painting as necessary, works testing, protective packaging and delivery to the site of integrating agency	2	sets

Since this is a development work, motor will be completely simulated in ANSYS for vibration and stress analysis. Any minor modifications in design, supports during the course of execution shall be duly incorporated without any additional cost. All required drawings shall be furnished as and when required for analysis.

Specific requirements / specifications / items as deemed necessary considering Natural Gas Service conditions, but omitted in this document shall be duly incorporated .

Co ordination of manufacture

Preliminary drawings will be supplied by FCRI to all the agencies. As it is a development project, following will be done for co ordination and holding together all the parties involved

1. In the technical specifications / documentation process flow chart is given indicating the inputs required from various agencies along with time frame that is required for Design and analysis by CFD and FEA.
2. Parties who are acceptable for interactive development will only be considered for order.
3. Payment are linked with delivery date of outputs (drawings) and proper co ordination
4. Design drawing of the vessels and motors will be obtained from selected agency and will be handed over to the CFD/FEA analysis agency **within 2 weeks of order.**
5. **Final production drawings will be made after analysis and issued from FCRI to the manufacturers within a period of 16 weeks / immediately after analysis.**

Following time frame is tentatively planned for this execution

1. CFD and FEA Analysis - 16 Weeks
2. Procurement of motor - 28 Weeks

(A total duration of 44 Weeks is expected for this manufacture of motor interactively)

2. Codes and Standards

Bidder shall meet all applicable codes, national law/ instructions and local regulation for safety and environment protection.

The following codes and standards are referred to and made part of specification:

1. NFPA
2. ANSI
3. NEC
4. NEMA
5. European Standards
6. OSID
7. BIS

In case of any conflicts, following preferential order shall govern:



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1. Data sheet / drawings
2. Technical specifications
3. International standards / codes as applicable
4. Indian standards / codes applicable

Compliance with this specification shall not relieve the bidder of the responsibility of furnishing equipment and accessories of proper design, material and workmanship to meet the specified operating conditions.

No deviations to the technical requirements and to the scope of supply specified in this enquiry document shall normally be accepted and offers not in compliance to the same shall be rejected summarily. In case a deviation is required due to inherent design of the equipment offered, the bidder shall list all such deviations at one place giving reasons thereon.

3. Design Data

Blower and the motor housed inside pressure vessels are immersed in natural gas during its operation. Internal and external surfaces of the motor are subject to same flowing gas pressure and hence there is no risk of unbalanced pressure. Motor is cooled by the flowing gas. High speed induction motor is operated through a frequency inverter panel. The electric motor is rated around 350 kW. Temperature in the motor shall not rise above the ignition temperature of the gas. Since the motor is immersed inside gas, it has to be **non sparking, intrinsic safe type**.

General arrangement of the loop and motor is given in the following drawings. **Please note that the motor is vertical mounted. Hence both end covers shall be flanged/machined for bolting.**

Following informative drawings are given along with these specifications to facilitate understanding our requirements regarding the motor

- Fig.1 Process Chart
- Fig.2 Motor scheme
- Fig.3 Typical feed through
- Fig.4 Assembly of feed through with flange (Tentative)
- Fig.5. Blower Characteristics at 6 and 47 bar inlet pressures (Typical)
- Fig.6 Blower Assembly (For reference purpose only)
- Fig.7 Typical Torque Speed Characteristics

Motor will run at a speed range of 300- 6,000rpm with a maximum power of 350 kW. The performance curve for inlet conditions of 1 & 47 bar (a), 30°C and an impeller speed of 6,000rpm will be given after CFD analysis. Selection of motor shall be done for the following duty:-

Medium	: Natural Gas
Molecular Weight	: 18 kg/kmol
Inlet Density	: 37.17 kg/m ³
Inlet Pressure	: 6-47 bar (a)
Pressure Rise across the blower	: 4 bar
Inlet Temperature	: 30°C
Gas flow rate (max)	: 21.7 kg/s

4. Area Classification

All external electrical and electronic components shall be suitable for hazardous area class I division I group D as per NFPA 70 article 500 or Zone –1 Group HA/HB as per IS/IEC.

5. Safety

The motor operates submerged in the process fluid, natural gas. There can be no ignition of natural gas by spark or flame unless oxygen is present. An explosion proof transmitter shall be fitted to the inlet pipe to the blower to monitor the composition of the gas entering the blower by FCRI. Should the level of oxygen in the natural gas reach a preset level, the blower shall be switched off automatically by a signal from the transmitter. An analyzer shall be provided by FCRI to



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monitor the atmosphere adjacent the power and instrument penetrations at the vessel end plate in the event of leakage of natural gas. Nine power penetrations and one instrument penetrations are fitted to the pressure vessel end plate. The penetrations shall be enclosed by leak proof carbon steel vent chambers mounted on the endplate. The vent chambers prevent any leakage at the glands escaping to atmosphere. Gas accumulating in the vent chambers can be vented or piped to a receiving vessel.

6. Instrumentation & Controls

Instrumentation shall be capable of operating for full range of operation. Instruments and control shall be suitable for area Class I, Group D, Division I. Temperature elements shall be intrinsic safe as per IEC. Other special equipment / instrument, where intrinsic safety is not feasible or available, shall be flame proof/explosion proof as per IEC. Blower package instrumentation & control shall be configured suitably for operation.

Separate junction boxes will be provided for each type of signal and intrinsic safe and for power supply. No cable shall share power & signal.

7. Motor Instrumentation

Thermocouples for remote temperature monitoring and automatic motor trip by inverter if motor winding temperature exceeds the recommended limits. Terminal boxes on pressure vessel fitted with a plug and socket connection complete with suitable type thermocouples

8. Electric motors

High speed induction motor is and operated through a frequency inverter panel. The electric motor is rated around 350 kW. Temperature in the motor shall not rise above the ignition temperature of the gas. Since the motor is immersed inside gas, it has to be non sparking and safe .

The motor shall be 2 pole, 3 ph, 350 kW, capable of 6,000 rpm. It operates submerged in the process gas (natural gas) and shall be cooled by the process gas. A steel fabricated gas guide shall be fitted to maximize the cooling effect from the process gas. No additional specific cooling system is proposed. The motor construction can be categorized as IP55. The motor insulation shall be designed to the requirements of Class F to BS EN 60034-1, i.e. an allowable temperature rise of 110 above 40°C ambient. The electrical design shall meet the Class B temperature limit of 80°C to provide a safety margin. The motor shaft runs on two grease lubricated rolling element bearings selected to give an L10 life of not less than 5 years between re-lubrication periods. Suitable pumping system shall be provided. The motor shall have three power leads per phase, a total of nine. The motors shall be provided with the following instrumentation:-

3 off thermocouples, one per phase.

2 – Off for bearings shall be provided.

All the leads shall be located at the lowest possible position on the motor body

Motor design, Insulating materials of windings, materials of constructions, glands, openings for exiting cables/accessories from external ambience into the casing shall be so selected and designed for rated operating conditions and medium. Reference standards and certified documents are essential for the above

9. Terminating points

- Frequency inverter input and output terminals
- At base of frequency inverter cubicle
- Motor power and instrumentation terminal boxes mounted on the vessel.

10. Special Features of motors

- Motor should have flanged ends at both power and non power ends to connect other accessories
- Shaft End : Impeller/diffuser will be mounted



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- iii. Bottom flange will be used for supporting the motor in vertical orientation. It has to take the entire load of motor, rotor and the diffuser.
- iv. Non sparking type terminations to be provided at bottom for power. Terminals will be screwed.
- v. No flameproof box is required to house the termination on the motor inside the vessel due to aerodynamic reasons.
- vi. Terminal points shall be provided at the bottom blind end (not at shaft end)
- vii. Since the motor is housed inside a pressure vessel, lubrication is preferred
- viii. Flowing gas is natural gas. Speed requirement for cooling can be achieved by designing the impeller diffuser area properly.
- ix. Shaft end cover plate shall ensure pressure equalization between the vessels and the motor housing.
- x. Self ignition temperature is around 385 C. All the connections shall be safe and spark free.
- xi. AS per applicable codes, FATs shall be conducted.
- xii. Our requirement of 6000 rpm can be easily achieved by doubling the frequency. (100 Hz instead of 50 for a 2 pole motor). However the bearings and other mechanical parts to be confirmed for high speed operations.

11. Documents/Data Along With Bid

Bidder shall furnish the following documents along with the bid without which the offer shall be considered incomplete:

1. **Completely filled in Data Sheets of Electric motors**
2. **Deviations if any to this Technical Specification**
3. **Tentative lay out / key plan/ General Arrangement indicating size of the package indicating overall dimension. Motor fin dimensions shall be furnished**
4. **Electrical Load summary**
5. **Speed, Torque and efficiency characteristics**
6. **Power supply and efficiency curves of the motor at rated operating conditions as detailed in relevant standards.**
7. Full technical details of the motor
8. Cross sectional drawings of the motor unit for the purpose of analysis .
9. Electrical line connection diagram,
10. Schedule of recommended spares complete with associated costs.
11. Commissioning procedures

Items 1-6 will constitute bidder evaluation criteria. Bidder shall supply any other document required over and above aforesaid documents during engineering stage after placement of order. Bidder shall also supply above data in editable soft copy.

12. Inspection and Testing

1. General

- a. Inspection and Test Requirements shall be as per approved QAP and factory accepted test procedures
- b. Bidder shall confirm compliance to all inspection and testing requirements stipulated therein and included the inspection charges in the lump sum cost.
- c. FCRI shall witness tests as per data sheet and this specification. The bidder shall notify the timing of such inspection and testing at least 15 days in advance. FCRI shall depute their representative for witnessing the tests. FCRI may also appoint third party for inspection.
- d. Bidder shall submit detailed Test Procedure for Approval of FCRI one month in advance of the actual date of conducting each test.
- e. Following test certificates of the motor to be provided in accordance with the codes (as applicable)



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- Hydrostatic pressure test certificate
- Radiographic test certificate
- Material quality test certificate
- D.P. test certificate to be provided.

f. The motor rotor to be dynamically balanced separately according to standard and test certificates to be provided.

2. Mechanical running test (MRT)

The MRT for motor shall be carried out in presence of FCRI's representatives (or a third party as arranged by FCRI) for 8 hours continuously at site of manufacturer. During this test following shall be recorded at agreed intervals.

- Vibration levels measured
- Bearing temperature
- Bidder shall submit test procedure for approval.



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13 Data sheet for the motor

Items		To be confirmed
Equipment	Motor for Blowers	
Owner	FCRI	
Driven equipment	Recirculating blower	
Duty	Natural Gas	
Manufacturer		
Type	Three Phase motor,50 Hz	
Frame Designation	Ex d IIB T4/Exn/Zone II/Gas Group 1 (External)	
Out put : KW	350 KW	
Voltage-----Volt	415 ± 10%,50 Hz	
Full load current -----AMP		
Full load speed -----RPM	With VFD ,6000 rpm	
Enclosure	TEFC/IP55 as per BSEN/TEC IP 55	
Mounting	Flange Mounted – Vertical	
Materials of Construction	Body Stator Windings Rotor Windings Shaft	
Insulation class	F/B	
Ambient temperature	40 oC	
Temp. rise by resistance	80 oC <i>Remote Motor and bearing temperature provision to be included</i>	
Applicable code	BSEN 60034-1 or equivalent	
Full load torque –Nm	575 at 6000 rpm	
Starting torque – FLT		
Efficiency at 100% load 75% load 50% load 0		
Rotation viewed from DE	CW	
Bearing type No.		
Cooling System	Main Gas Flow Over Motor Frame	
Type of lubrication	Grease Lubricated. Pumps shall be supplied	
Net weight (approximate) ---kg		
Cable size / type --- mm sq.		
Phase / connection / No. of terminal	3 phase/2 * 3 leads	
Frequency --- Hz	Yes	
No. of poles	2	Else lease specify
Locked rotor current.....%FLC		
LR with stand time (HOT).....sec (COLD).....sec		
Starter /rotor time constantmin		
Power factor at 100% load 75 % load	0.87 0.82	



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50 % load 0	0.72 0.34	
Break down or pull out torque --- %FLT		
GD sq. of load--- kg-cm ²		
GD sq. of motor --- kg-cm ²		
Starting time at 100% / 80% V- sec		
Vibration level/ Noise level		
Area Classification	National/International Standards	
VFD suitable for the motor	FCRI	
Qty	2 sets	
<u>Gas group</u>	<u>Class – I, Zone (Div)-1, GAS Group IIA/IIB (External)</u>	

Important Note

1. Complete Technical specifications of motor to be furnished
2. Detailed dimensional drawings of motor to be furnished
3. Suitable provision for vertical lifting the motor shall be provided



14. Gas Composition Data

General

Medium	:	Natural Gas
Pressure	:	6-51 bar a (Variable)
Temperature	:	30 °C

Typical Gas Composition Data:

Methane	:	93.2841%
CO ₂	:	1.7999%
Ethane	:	1.9486%
Nitrogen	:	0.1186%
N-pentane	:	0.0955%
i-pentane	:	0.1250%
n-butane	:	0.4161%
i-butane	:	0.3394%
Propane	:	1.5150%
C6 + Hydrocarbons	:	0.3582%
Gross calorific Value	:	9523.5 Kcal.

Gas Properties

Net	:	8595.67 Kcal
Specific Gravity	:	0.622
Specific Heat Capacity	:	2.34 kj/kg
Z _a	:	0.900659
Z _n	:	0.997069
Density actual	:	40.338 kg/m ³ (at 51 bar)
Density normal	:	0.80344 kg/m ³
Maximum Pressure	:	51 bar a
Operating Temperature	:	30 °C
Normal Pressure	:	1.01325 bar
Normal Temperature	:	0 °C
Actual flow rate	:	2100 m ³ /h
Normal flow rate	:	105000 nm ³ /h

Note:

1. Z has been calculated as per AGA 8 1992 Detail Characteristic Method.



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15. **Technical Check List (As applicable)**

SI No.	Description	Vendor Confirmation
1	GA Drawing with dimension and details of equipment	
2	PID Drawing with dimension and details of equipment	
3	Bill of Quantities	
4	Make/Model with decode details	
5	Technical catalogues/documentation	
6	Completed Data sheets with specifications	
7	Conformity of Materials specifications	
8	Pressure drop requirements/calculations	
9	Signature/Official stamp Approval of the tender/ data sheets/ drawings etc.	
10	Content page/ numbering for documents/ drawings/ certificate etc	
11	Sizing / design calculation	
12	Submission of Documents as per Data Requirements	
13	Submission of completed technical questionnaire	
14	Venue of manufacture/ inspection, details setup, facility	
15	Recommended spares with price list (2 years)	
16	Sublet Items and vendor list for approval of FCRI	
17	Shipping weight & volume of item	

Place:

Name & Designation

Date:

Authorized Signature

Office Seal



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16. Bidder Technical Questionnaire (As applicable)

Bidder shall fill in and submit along with un priced bid document.

SI No.	Description	Vendor Confirmation Yes/No/NA
1	Deviation a. Specifications b. Equipment specifications as per data sheets c. Scope of supply If Yes include the list of deviations.	
2	Spare parts/consumable items for the startup /spares for 2 Years	
3	Commissioning spares	
4	Tools/ calibration kits/ mounting accessories required, if any, for erection, commissioning and maintenance of the instruments.	
5	Relevant technical catalogues in English with model /dimensions /decoding/drawing details, drawings etc.	
6	Supply of required vendor documentation	
7	If applicable, sizing, noise calculations and certified performance curves	
8	BASEEFA, FM, CSA etc approvals for ex- proof construction/ intrinsically safe design	
9	Estimation of power/water/air utility for the instruments, if any.	
10	Customer reference list(Indian/foreign)	

Note: -

If the response is 'NO', please enclose reasons

Place:

Name & Designation

Date:

Authorized Signature

Office Seal



17. Vender Data Requisition

Vender shall supply the documents **as applicable** and furnish the schedule of supply in weeks

1. Supply of Design Calculations

Document Number	Document	With Tender	For Approval	For Verification
DC1	Design (Mechanical / Thermal / Hydraulic / Electrical)			
DC2	Wall Thickness Design			
DC3	Stress Analysis			
DC4	Pressure Vessel Analysis/ code			
DC5	Flow Element			
DC6	Support Loading			
DC7	Bearing Life design			
DC8	Structural Steel			
DC9	Allowable Force and Moments for Flanges			
DC10	Unbalanced Force			
DC11	Seat Spring Force			
DC12	Pressure Drop Curves			
DC13	Head Loss			
DC14	Flow / Cv Characteristics			
DC15	Lateral/Partial Critical speeds			
DC16	Hydrostatic / Pressure Testing			
DC17	Radio Propagation			
DC18	Requirements Torque			
DC19	Blower performance characteristics			

2. Supply of Design Drawings

DD1	Drawing Index			
DD2	GA for Manufacture			
DD3	Detailed Drawings with material specifications, qty and size			
DD4	Sectional Exploded View			
DD5	Isometrics Views			
DD6	P&ID			
DD7	Logics			
DD8	Schematics of Electrical / Electronics			
DD9	Electrical Line /Wiring Diagrams			
DD10	Electrical Interconnection			
DD11	Electrical Internal Connection			
DD12	Support & Foundations			
DD13	Manufacturing / Fabrication			
DD14	Completed Data Sheets			
DD15	As-Built Drawings			
DD16	List of spares			

3. Electrical Equipment Requirements

EE1	Relay Characteristics, Rating			
EE2	Transformer Characteristics			
EE3	Motor performance curves			
EE4	Electrical fire/circuit reactor characteristics			



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EE5	Motor Heating characteristics			
EE6	Motor Torque and current characteristics			
EE7	Equipment Performance Curves and Data			
EE8	Electrical load Calculations			

4. Suppliers Equipment Manuals

SM1	Maintenance Manuals			
SM2	Operating Manuals			
SM3	Service Manuals			

5. Manufacturing & Procedures / Specifications

MP1	Manufacturing/Fabrication			
MP2	Manufacturing Qualification			
MP3	Time- Temperature curve, stress relieving			
MP4	Welding			
MP5	Weld Repair			
MP6	Dimensional Control			
MP7	Material Control			
MP8	Heat Treatment			
MP9	Cold Storage			
MP10	Safety			
MP11	Painting/Coating			
MP12	Coating Repair			
MP13	NDT			
MP14	Hydrostatic / Pneumatic Test			
MP15	Mechanical Test			
MP16	Mechanical Ruin Tests			
MP17	Equipment Performance Test			
MP18	Hardness Test			
MP19	Long Term / Endurance Testing			
MP20	Electrical/Magnetism Test			
MP21	Weldability Test			
MP22	Coating Inspection Test			
MP23	Bending Test			
MP24	Visual Inspection			
MP25	Packing and Shipping			
MP26	Marking			
MP27	Weighing			
MP28	Handling			
MP29	Installation			
MP30	Commissioning			
MP31	Field Acceptance Test			

6. Quality Assurance Requirements

QA1	Quality Manual			
QA2	Quality Control			
QA3	Quality Plan			
QA4	Quality Assurance			
QA5	Inspection & Test Plan			



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7. Test Results / Certificates / Reports

TRC1	Manufacturing Qualification			
TRC2	ASME Certification			
TRC3	Mechanical Test			
TRC4	Hydrostatic / Pneumatic Test			
TRC5	Hardness Test			
TRC6	NDT Operators Qualification			
TRC7	Long Term Testing & Endurance Test Results			
TRC8	Weld and Repair Qualification			
TRC9	Welder Approval			
TRC10	Weldability Test			
TRC11	Chemical Analysis Material tests			
TRC12	Electrical/Magnetism Test			
TRC13	Heat Treatment Records			
TRC14	Dimensional Control & Dimensional Reports			
TRC15	Calibration			
TRC16	Equipment Performance Test			
TRC17	Acceptance Test			
TRC18	Bending Test			
TRC19	Letter of Conformity			
TRC20	Mill Certificates			
TRC21	Weekly Inspection Reports			
TRC22	Coating Test			
TRC23	Material			
TRC24	Visual Inspection			
TRC25	Electrical Equipment Heat Ruin			
TRC26	Vibration Test			
TRC27	Input Voltage			
TRC28	Administration Procedures			
TRC29	Material Tracking			
TRC30	Release			
TRC31	Data and Index			
TRC32	Campbell and Goodman Diagram			
TRC33	Packing for Shipment			
TRC34	Name Plate			
TRC35	Field Acceptance Test			

8. Supply & Delivery Schedule

SS1	Documents			
SS2	Equipment			
SS3	Manufacturing			
SS4	Material List			
SS5	Weight			
SS6	Instrumentation, Cable, JB			
SS7	Spares			
SS8	Delivery			

9. Technical Reports Requirements

TR1	Technical Specifications			
TR2	Equipment Standard Specifications			
TR3	Technical Design			
TR4	Technical Control Panel			



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10. Miscellaneous Data

M1	Certificates from Statutory Authorities			
M2	References			
M3	Catalogues			
M4	Details of sublet items			
M5	HSE Statement			
M6	Weldability Data			
M7	Control Systems Description			
M8	Training Programme			

Note:

1. Requirements & timings to be agreed prior to order and furnished
2. Supplier shall indicate their time schedule in weeks for all applicable items. Format 5AO = 5 Weeks After Order
3. Vender shall include any other relevant document required but omitted in the above list.
4. AO = After Order
5. PD = Prior to Delivery
6. WB = With Bid
7. AT = After Test
8. AS = After Schedule

Name & Designation

Place:

Authorized Signature

Date:

Office Seal



18. Technical Deviations

I. Deviation

SI No.	Document No &Title	Clause	Deviation Details

Place:

Name & Designation

Date:

Authorized Signature

Office Seal



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20 Tender Drawings

Drawings are tentative only. Successful tenderer has to make the production drawings along with other accessories and submit to FCRI. Suggestions made based on FEA/CFD analysis have to be incorporated in the final design prior to manufacture.

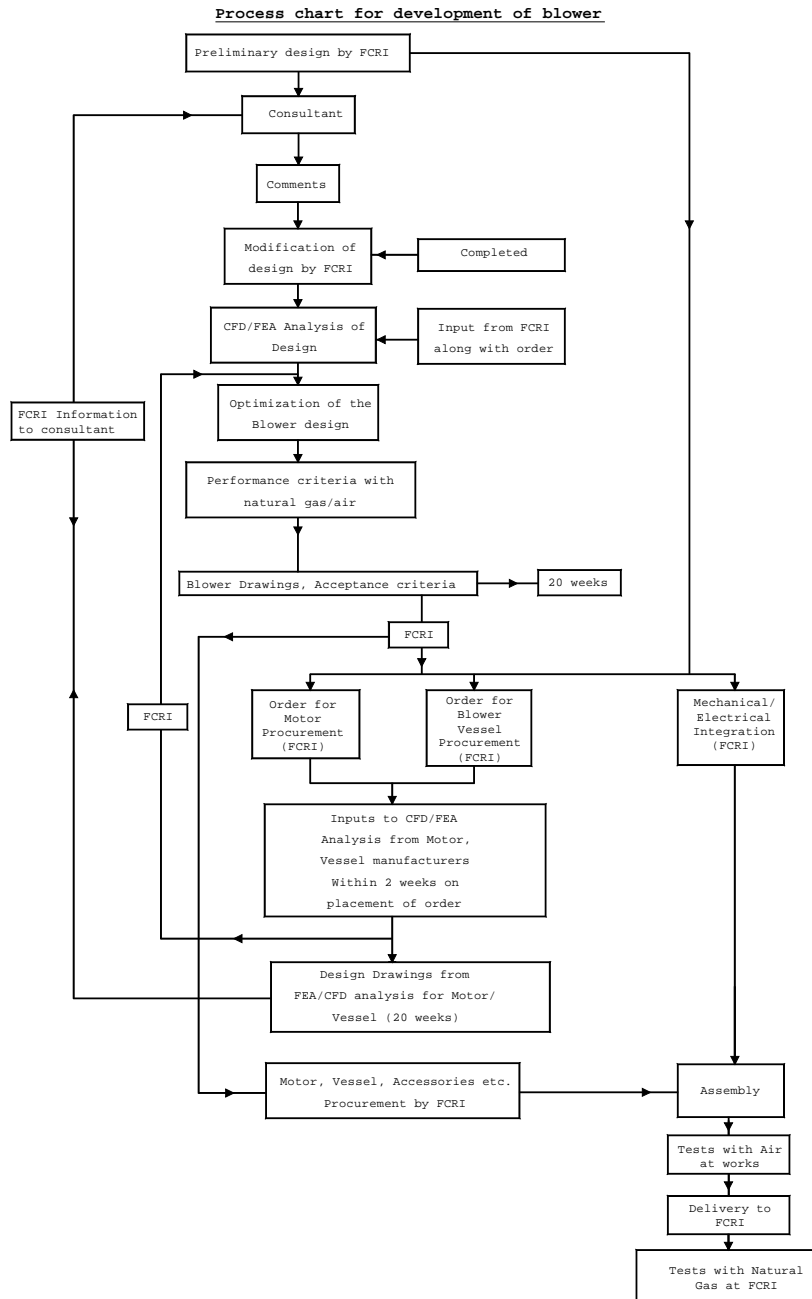


Fig.1 Process Chart

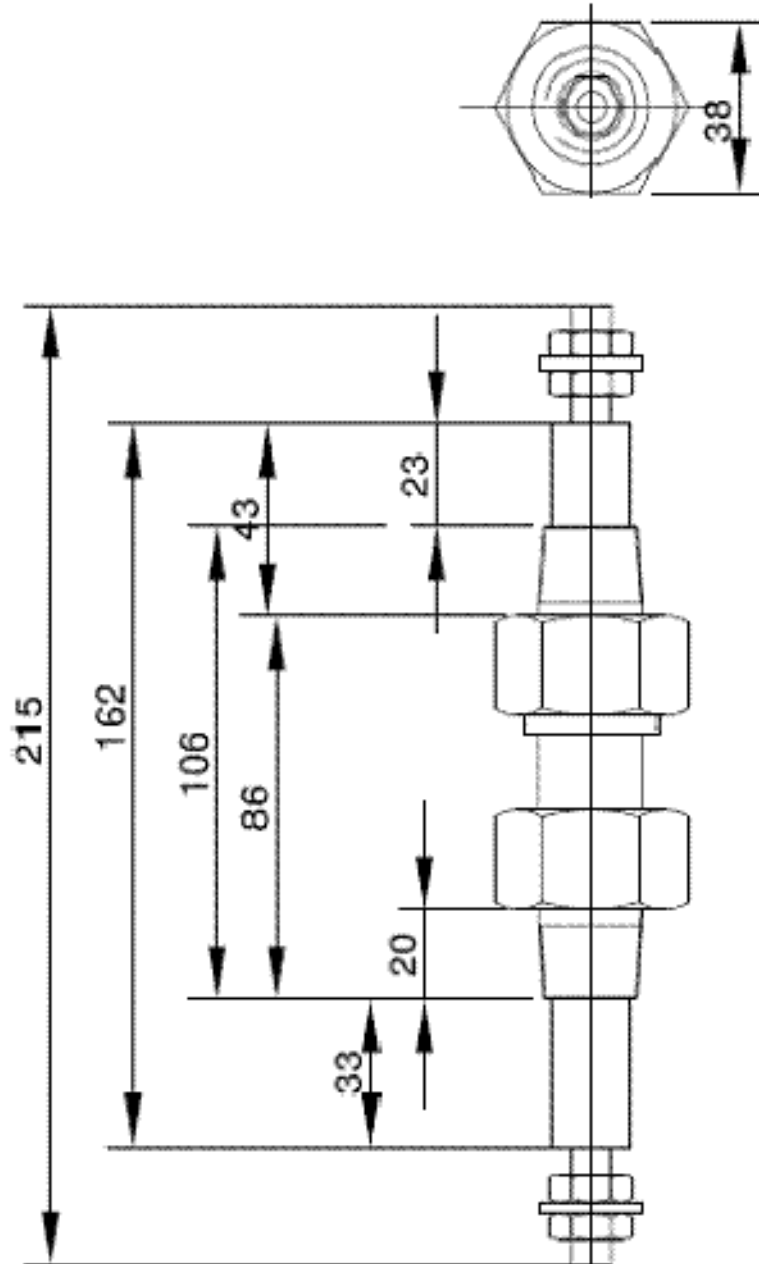


Fig.3 Typical feed through

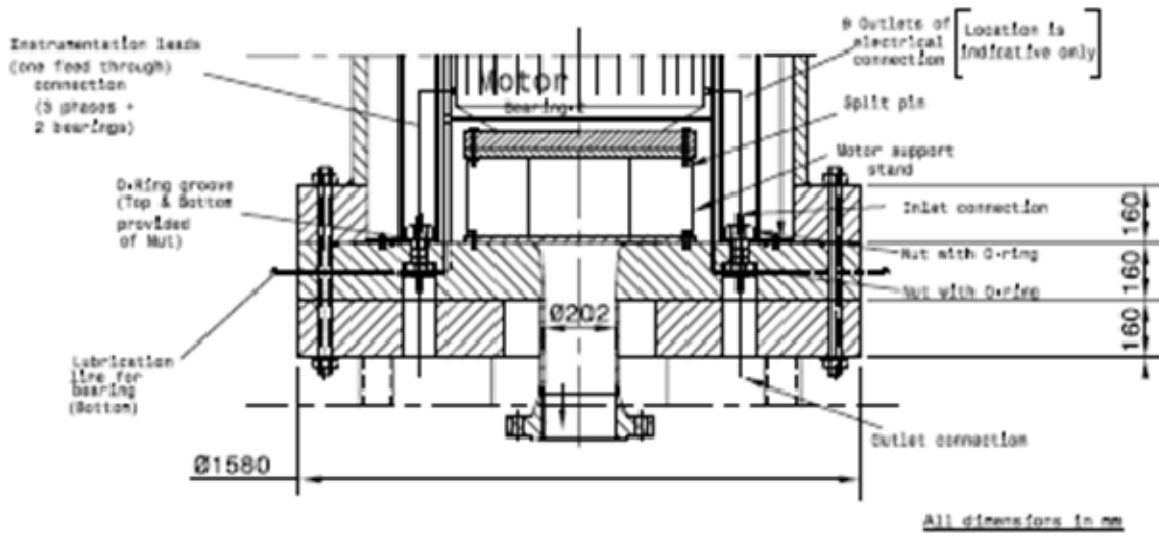
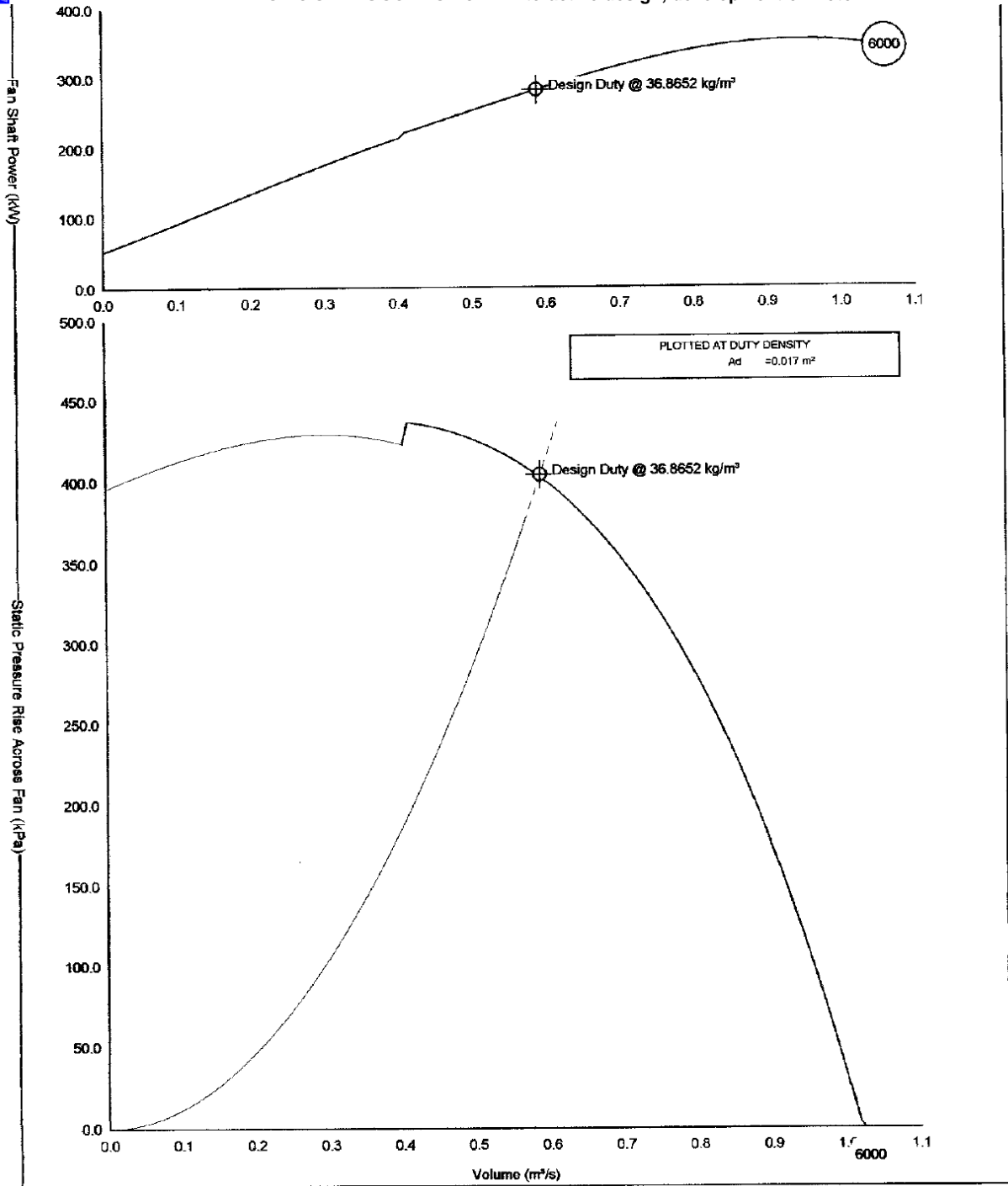


Fig.4 Assembly of feed through with flange (Tentative)



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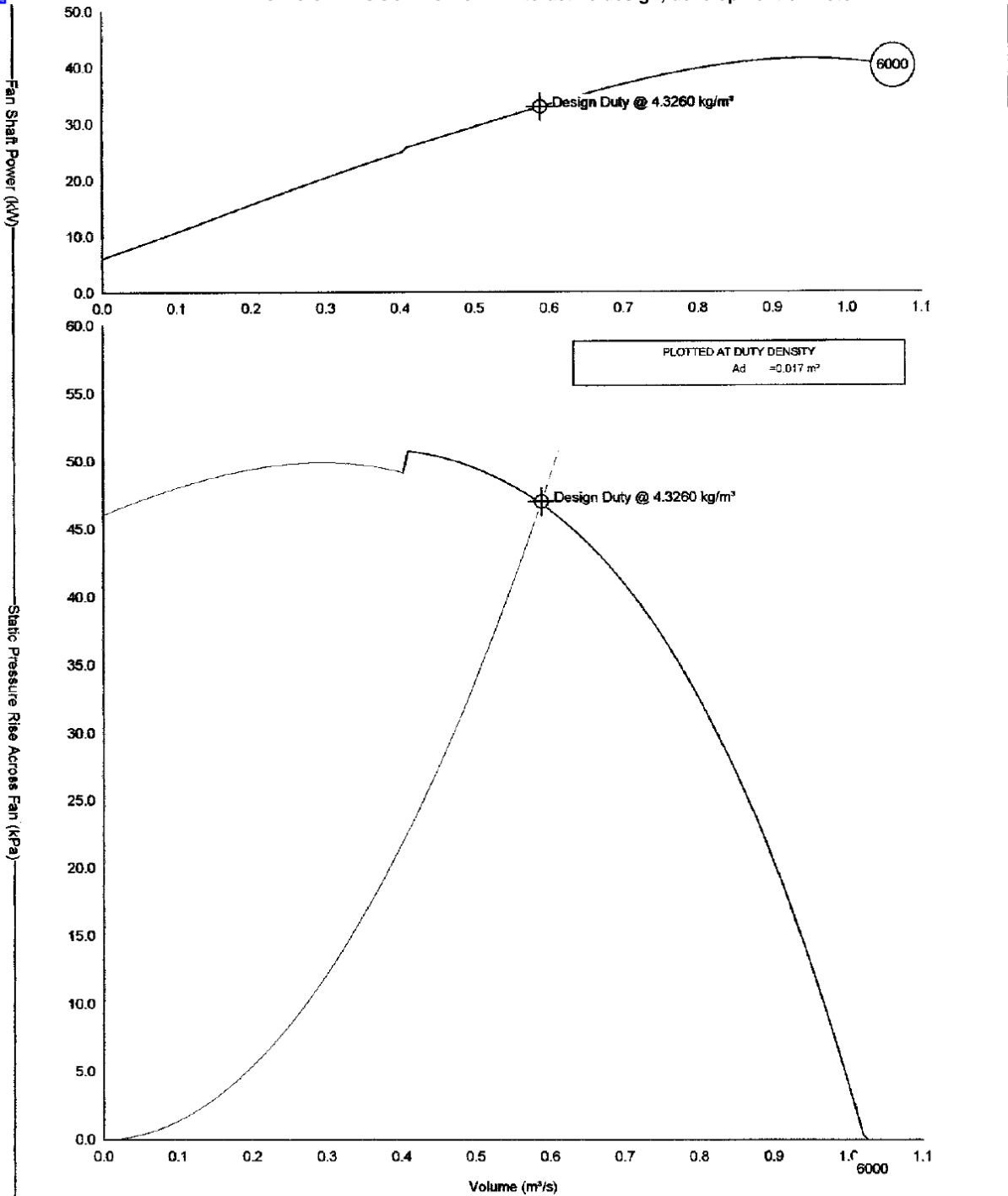


Fig.5. Blower Characteristics at 6 and 47 bar inlet pressures (Typical)

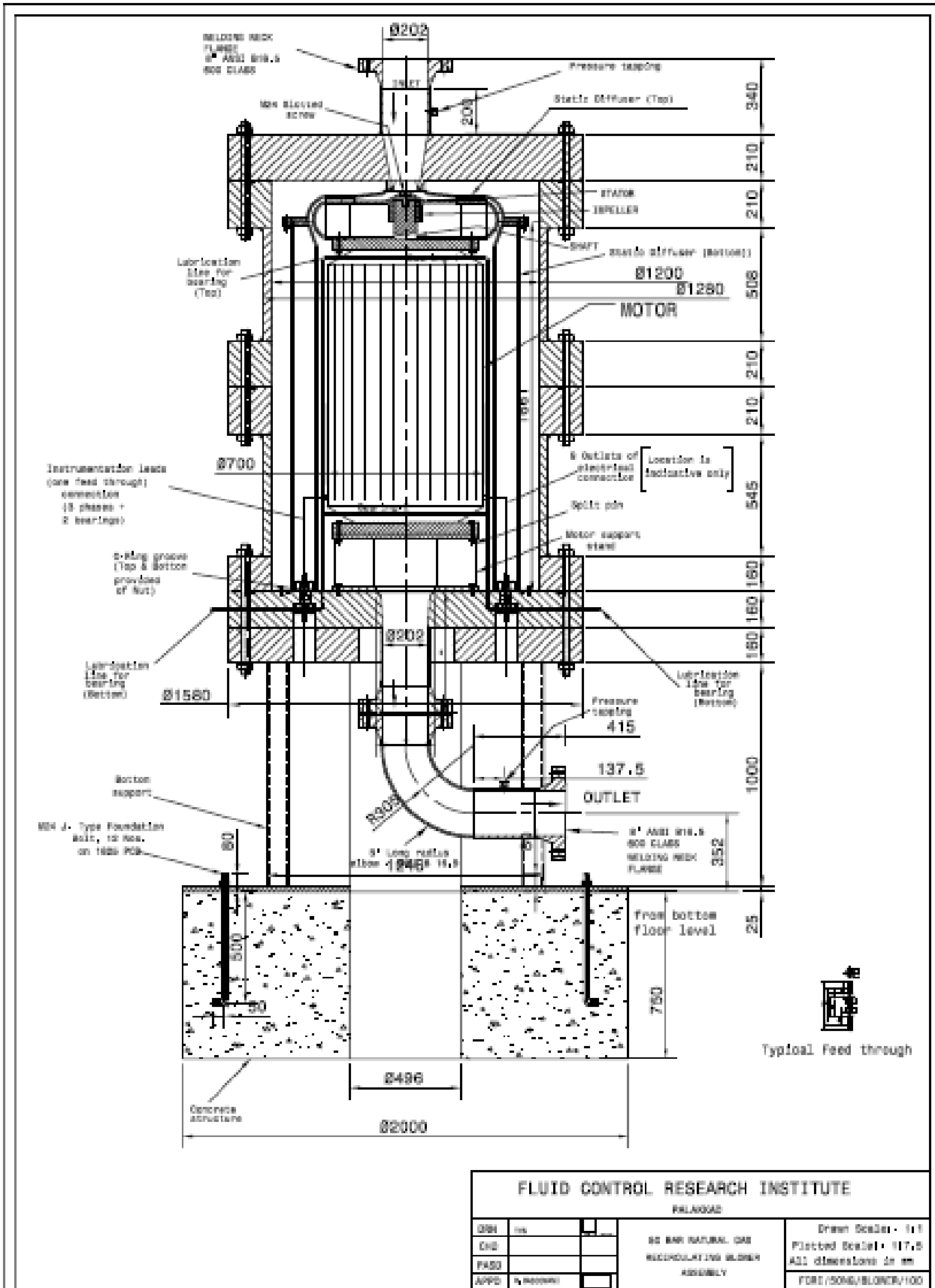
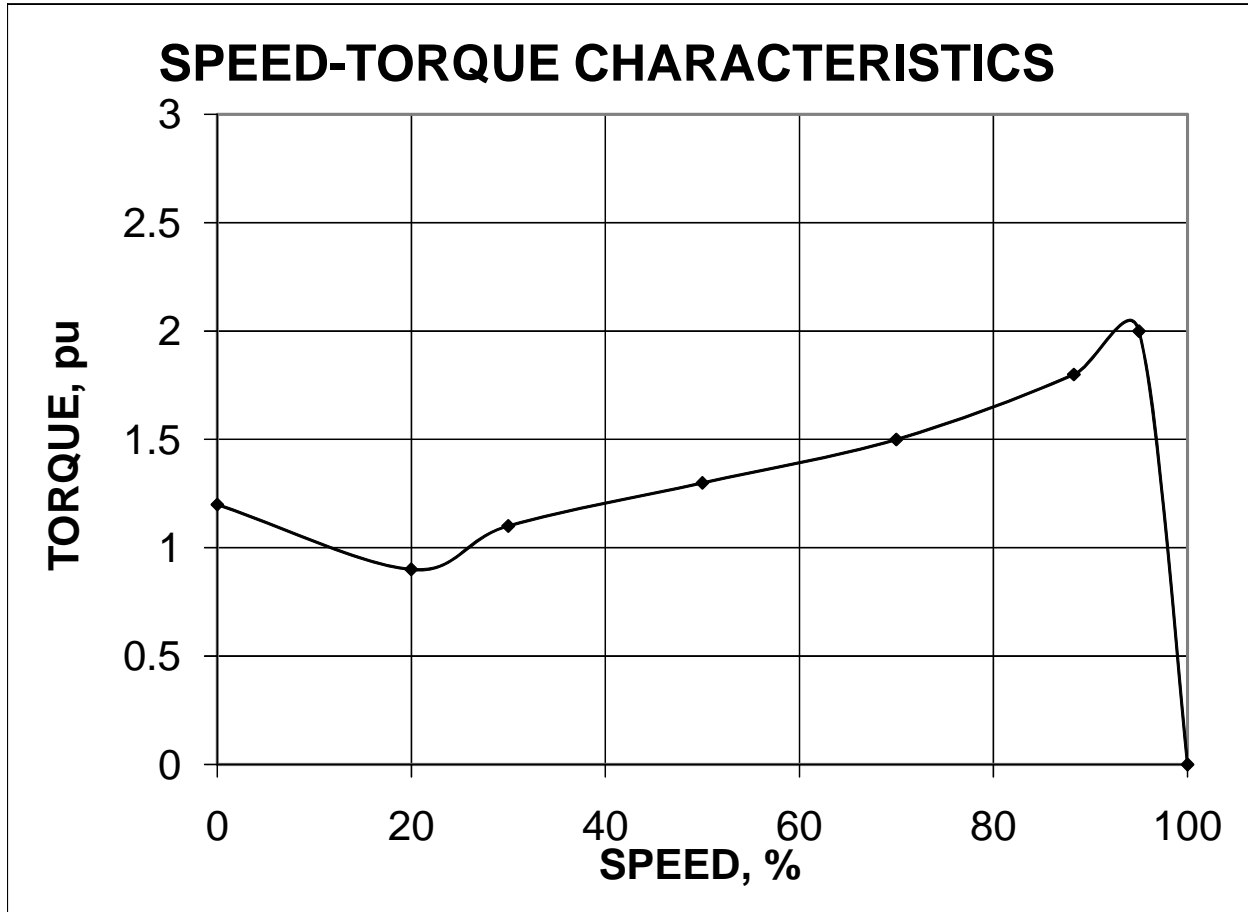


Fig.6 Blower Assembly (For reference purpose only)



NOTE : STARTING TORQUE OF THE MOTOR SHALL BE APPRX. 120% OF THE RATED TORQUE, POT WILL BE APPRX. 200% OF THE RATED TORQUE. WITH VFD DRIVE, SPEED IS ACCELERATED SLOWLY, THEN STARTING TORQUE AND ACCELERATION TORQUE SHALL BE APPRX 180%.

Torque Rating will be 575 Nm for 350 kW

Fig.7 Typical Torque Speed Characteristics



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GENERAL CONDITIONS



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CONTENTS

Sl. No.	Description	Pages
1	Bidders Eligibility Criteria	
2	General Information to Tenders	
3	Instructions to Tenders	
4	Tender Notice	
5	Form for Bank Guarantee for Earnest Money Deposit	
6	Format - Letter of Authority	
7	Form for Bank Guarantee for Security Deposit	
8	Form for Contract cum Performance Bank Guarantee	
9	Details of Indian Agent	
10	Commercial Check List	
11	Scope of Contract	
12	General Rules and Directions for Guidance	
13	Award of Contract	
14	Preambles	



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I. Bidders Eligibility Criteria:

1. Invitation for Bids is open to bidders who qualify the eligibility criteria.
2. The bidder should have executed at least one special motor design, development, manufacture, and integration in India or abroad in the preceding 3 years reckoned from bid due date.
3. The bidder shall not have been declared as ineligible by FCRI for corrupt or fraudulent practices as defined in ITB.
4. Bid should be from original manufacturers. Bids from selling agents / authorized distributors/ authorized dealers/ will be considered, provided bids are supplied with authority letter from the concerned manufacturers valid at the time of bidding. Warranty cover will be provided by such bidder.



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II. General Information To Tenderers

Tender reference : PUR/FCRI/NG50/PT/MD/2010-11

Cost of Tender Form : Rs.4000.00 or USD 85.00

EMD (Rs) : 80000.00

EMD (USD) : 1700.00

Due date for submission : 7th July 2010, 5.30 PM

Signature of the tenderer :

Name :

Designation :

Address :

Date :

Place :



Fluid Control Research Institute, Kanjikode West, Palakkad
Tender Document – Interactive design, development of motor

III. Instructions to Tenderers

1. The following three documents constitute the complete tender specifications
 - Technical Tender Specification
 - Tender Document – General Conditions
 - Price Schedule
2. Full signatures are required in the following:
 - a) Index Page
 - b) Tender Form
 - c) Price Schedule
3. Initials are required in all other pages including preambles.
4. The rates should be quoted in words also.
5. The conditions of tender ought to be read carefully.
6. The tender should be submitted in two (2) parts in separate sealed envelope superscribing the tender reference, name of work, due date and nature of bid (priced or unpriced).

Part I – The Unpriced Bid

- a) Tender documents duly completed along with unpriced schedule of quantities, all technical and commercial details.
- b) List of deviations / modifications or variations, if any, to the specifications and terms & conditions.
- c) Profile of the Firm / Company.
- d) An affidavit stating, “None of the supply/works carried out by me were not cancelled owing to my fault”.
- e) All necessary documents mentioned in Scope of Contract (X) & General Rules (XI)
- f) All necessary items mentioned in Volume – I
- g) EMD by way of Demand Draft in favour of Fluid Control Research Institute, payable at Palakkad or Cash voucher of amount remitted at FCRI Office.**

Part II – The priced bid

One set of the schedule of quantities and rates duly signed on all pages
(To be submitted in the Priced Bid format).

While submitting the duly filled-up downloaded Tender Form, the bidders shall submit a Demand Draft for Rs.5000.00 or USD 110.00 in favour of ‘Fluid Control Research Institute, payable at Palakkad’ towards cost of Tender Form, without which the bid will not be accepted.

The Tender fee and EMD should be submitted in a separate sealed envelope superscribing “Tender fee & EMD”



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IV. Tender Notice

To

Dear Sir,

Sub:

1. Sealed item rate tenders are invited from reputed manufacturers/ suppliers/ exclusive Indian agents for the following work intended vide technical tender enclosed
2. The following documents have been enclosed:
 - a) Technical tender specification
 - b) Tender document – General conditions
 - c) Price Schedule
3. The unpriced bids will be opened and evaluated by FCRI authorities. The priced bids will be opened at FCRI in presence of the qualified tenderers or a single authorized representative of the tenderer. The exact date of opening will be informed later.
4. No consideration will be given to any tender received after due time and date.
5. After finalization of the purchase, an amount of @10% of the total tendered value must be deposited by the successful tenderer as '**Security Deposit**' for the due fulfillment of the contract, before releasing the purchase order. The Security Deposit will be returned to the successful supplier along with final payment.

The Earnest Money will be retained as a part of the Security Deposit and balance amount must be deposited by the way of Demand Draft in favour of Fluid Control Research Institute, payable at Palakkad.
6. The security deposit will bear no interest.
7. The tenderer will submit his tender after carefully examining all the Tender Documents.
8. The tender shall be valid for acceptance for a minimum period of **SIX MONTHS** from the date of its opening.

Place:
Date:

Name & Designation

Authorized Signature

Office Seal



Fluid Control Research Institute, Kanjikode West, Palakkad

Tender Document – Interactive design, development of motor

V. Form for Bank Guarantee for Earnest Money Deposit

(Stamp in accordance with the Stamp Act)

Ref.....

Bank Guarantee No.....

Date.....

To,
Fluid Control Research Institute
Kanjikode West, Palakkad,
Kerala, India – 678623

Dear Sir(s),

TENDER NO. _____ FOR _____

WHEREAS.....(hereinafter called the Bidder has submitted his Bid no.
Dated.....for(hereinafter called 'the bid')

KNOW ALL MEN by these presents that WE..... are bound unto FCRI Kanjikode West, Palakkad, Kerala, India – 678623 (herein after called FCRI) IN THE SUM OF.....for which payment well and truly to be made to FCRI, the Bank binds itself its successor and assigns by these presents. Sealed with the Common Seal of the Bank this... day of...

THE CONDITIONS OF THIS OBLIGATION ARE :

1. If the Bidder withdraws his Bid during the period of Bid validity specified by the Bidder on the Bid Form ; or
2. If the Bidder, having been notified of the acceptance of his bid by FCRI during the period of bid validity but
 - a) Fails or refuses to execute the Contract Form, if required; or
 - b) Fails or refuses to furnish the PERFORMANCE SECURITY in accordance with the instructions to bidder.

We undertake to pay FCRI upto the above amount upon receipt of its first written demand, without FCRI having to substantiate its demand, provided that in its demand FCRI will note that the amount claimed by it is due to it owing to the occurrence of one or both of the two conditions specifying the occurred condition or conditions.

The Guarantee will remain in force upto _____and any demand in respect thereof should reach the BANK not later than the above date.

(Signature of the BANK)

Signature of the Witness

Name & Address of Witness:

Date:



Fluid Control Research Institute, Kanjikode West, Palakkad
Tender Document – Interactive design, development of motor

Instructions for Furnishing Bank Guarantee

1. The Bank Guarantee by bidders will be given on non-judicial stamp paper as per stamp duty applicable. The non-judicial stamp paper should be in the name of the issuing bank. In case of foreign bank, the said banks guarantee to be issued by its correspondent bank in India on requisite non-judicial stamp paper.
2. The expiry date as mentioned in bid document security should be 6 months from the bid due date.
3. The bank guarantee by bidders will be given from bank as specified in ITB
4. A letter from the issuing bank of the requisite Bank Guarantee confirming that said bank guarantee / all future communication relating to the Bank Guarantee shall be forwarded to FCRI its address as mentioned at ITB.
5. Bidders must indicate the full postal address of the bank along with the bank's E-mail/ Fax. From where the bonds has been issued.
6. If a bank guarantee is issued by a commercial bank, then a letter to FCRI confirming its net worth is more than Rs. 1,000,000,000/- (Rupees one hundred Crore) or equivalent along with documentary evidence.



Fluid Control Research Institute, Kanjikode West, Palakkad
Tender Document – Interactive design, development of motor
VI. Letter of Authority for Attending Price Bid Opening and Subsequent Negotiations.

Date:

Fluid Control Research Institute,
 Kanjikode West, Palakkad,
 Kerala, India – 678 623

Dear Sir,

Sub:

Bid No.....for

M/s hereby authorize following personnel to attend the price bid opening and for subsequent discussions/registration/correspondence and communication against above Bid.

1. Name & Designation Signature

2. Name & Designation Signature

We confirm that we shall be bound by all commitments made by aforementioned authorized representatives.

Tanking you

Yours faithfully,

Place:
 Date:

Name & Designation
 Authorized Signature

Office Seal

Note: -

This letter of authority should be on bidder’s letterhead and should be signed by a person competent having the power of attorney to bind the bidder.

Not more than two persons are permitted to attend techno-commercial negotiations/price bid opening.



Fluid Control Research Institute, Kanjikode West, Palakkad
Tender Document – Interactive design, development of motor
VII. Form for Bank Guarantee for Security Deposit
(Stamp in accordance with the Stamp Act)

Ref.....

Bank Guarantee No.....

Date.....

To,
Fluid Control Research Institute
Kanjikode West, Palakkad,
Kerala, India – 678623

Dear Sir(s),

TENDER NO. _____ FOR _____

WHEREAS.....(hereinafter called the Bidder has submitted his Bid no.
Dated.....for(hereinafter called 'the bid')

KNOW ALL MEN by these presents that WE..... are bound unto FCRI Kanjikode West, Palakkad, Kerala, India – 678623 (herein after called FCRI) IN THE SUM OF.....for which payment well and truly to be made to FCRI, the Bank binds itself its successor and assigns by these presents. Sealed with the Common Seal of the Bank this... day of...

THE CONDITIONS OF THIS OBLIGATION ARE :

3. If the Bidder withdraws his Bid during the period of Bid validity specified by the Bidder on the Bid Form ; or
4. If the Bidder, having been notified of the acceptance of his bid by FCRI during the period of bid validity but
 - a) Fails or refuses to execute the Contract Form, if required; or
 - b) Fails or refuses to furnish the PERFORMANCE SECURITY in accordance with the instructions to bidder.

We undertake to pay FCRI upto the above amount upon receipt of its first written demand, without FCRI having to substantiate its demand, provided that in its demand FCRI will note that the amount claimed by it is due to it owing to the occurrence of one or both of the two conditions specifying the occurred condition or conditions.

The Guarantee will remain in force upto _____and any demand in respect thereof should reach the BANK not later than the above date.

(Signature of the BANK)

Signature of the Witness

Name & Address of Witness:

Date:



Fluid Control Research Institute, Kanjikode West, Palakkad
Tender Document – Interactive design, development of motor

Instructions for Furnishing Bank Guarantee

7. The Bank Guarantee by bidders will be given on non-judicial stamp paper as per stamp duty applicable. The non-judicial stamp paper should be in the name of the issuing bank. In case of foreign bank, the said banks guarantee to be issued by its correspondent bank in India on requisite non-judicial stamp paper.
8. The expiry date as mentioned in bid document security should be 6 months from the bid due date.
9. The bank guarantee by bidders will be given from bank as specified in ITB
10. A letter from the issuing bank of the requisite Bank Guarantee confirming that said bank guarantee / all future communication relating to the Bank Guarantee shall be forwarded to FCRI its address as mentioned at ITB.
11. Bidders must indicate the full postal address of the bank along with the bank's E-mail/ Fax. From where the bonds has been issued.
12. If a bank guarantee is issued by a commercial bank, then a letter to FCRI confirming its net worth is more than Rs. 1,000,000,000/- (Rupees one hundred Crore) or equivalent along with documentary evidence.



Fluid Control Research Institute, Kanjikode West, Palakkad

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VIII. Form of Contract Cum Performance Bank Guarantee

(ON NON-JUDICIAL PAPER OF APPROPRIATE VALUE)

TO:

M/s. Fluid Control Research Institute
Kanjikode West, Palakkad – 678 623
Kerala

THIS DEED OF GUARANTEE executed by registered under the Nationalised Bank, constituted under the Banking Companies (Acquisition and Transfer of Undertakings), Act, having its registered office at.....and one of its branch at (hereinafter referred to as “the Bank”) in favour of M/s. Fluid Control Research Institute (hereinafter referred to as “The Beneficiary”) for an amount of not exceeding Rs..... (Rupees..... only) at the request of M/s.....(hereinafter referred to as the contractors / suppliers).

This guarantee is issued subject to the condition that the liability of the Bank under this Guarantee is limited to a maximum of Rs..... (Rupees. only) and the guarantee shall remain in full force upto (date of expiry) and cannot be invoked otherwise than by a written demand or claim under the guarantee served on the Bank on or before the (last date of claim).

Whereas the Fluid Control Research Institute (A government of India Project under UNDP Assistance) Kanjikode West, Palakkad – 678 623, Kerala (hereinafter called the Company) has placed a purchase order No. (called the order) with M/s..... (hereinafter called as the contractors/suppliers) for the supply of for Fluid Control Research Institute, Palakkad, Kerala and whereas it is one of the conditions of the order that the supplier shall submit a performance Bank Guarantee of 10% of the total order value, 10% of the order value being Rs..... (Rupees... only).

We hereby undertake that we will pay to the Company without any demur, merely on a demand from the Company any sum or sums which may from time to time demanded by the company upto maximum of Rs.....(Rupees..... Only).

We do hereby undertake to pay the amount demanded under this guarantee without any demur, merely on a demand from the company. Any such demand made on the bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee.

We undertake to pay to the Company any money so demanded notwithstanding any dispute or disputes raised by the contractor/supplier in any suit or proceeding pending before any court or Tribunal relating thereto our liability under this present being absolute and unequivocal.

The payment so made by us under this guarantee shall be a valid discharge of our liability for payment there under and the said contractor/supplier shall have no claim against us for making such payment.

We further agree that the guarantee herein contained shall remain in full force until (a) payment has been made to the company by the Bank of the aggregate amount payable hereunder or (b) all the items of work/supply as per the order has been completed in accordance with the conditions of the order or till the expiry of this guarantee and the company discharges the guarantee accordingly whichever shall first occur.

We, further agree with the Company that they shall have the fullest liberty without consent and without affecting in any manner our obligations hereunder grant time or other indulgence to or compound with the contractor/supplier or enter into any agreement or composition or agree to forebear to enforce any of the terms and conditions of the said order, against the contractor/supplier or agree to vary any of the terms and conditions of the said order or by any such matter or thing which under the law relating to sureties but for this provision have the effect of so relieving us.



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This guarantee shall not be affected by any change in the constitution of the bank or the company of the contractor/supplier nor shall this guarantee be affected by any change in the constitution of the company or said contractor by absorption with any other body or corporation and this guarantee shall be available to or enforceable by such body or corporation.

Our guarantee shall remain in force until Unless a claim or demand is made within one month after the expiry of the above date, all the company's right under the guarantee shall be deemed as waived/forfeited and we shall be relieved and discharged from all liabilities there under.

We lastly undertake not to revoke this guarantee during its currency except with the previous consent of the company in writing.

Notwithstanding anything to the contrary contained herein.

- a. Our liability under this Bank Guarantee shall not exceed of Rs.....
(Rupees..... only).
- b. This Bank Guarantee shall be valid upto
- c. We are liable to pay the guaranteed amount or any part thereof under this bank guarantee if and only if you serve upon us a written claim or demand on or before
- d. The original Bank Guarantee is to be returned back to us on expiry thereof or else it shall be deemed to have been automatically cancelled.

Yours faithfully,

.....Bank
By it's Constituted Attorney

Signature of a person duly
Authorized to sign on behalf of the Bank.



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IX. Details of Indian Agent /Consultant/ Representative

To
Fluid Control Research Institute,
Kanjikode West, Palakkad,
Kerala, India – 678 623

- 1 Name of Indian agent/ Consultant/
Representative :
- 2 Address :
- 3 Nature of Services to be rendered :
- 4 Name of Contract Person :
1. Telephone Number :
2. Fax Number :
3. E-mail address & Web Site :
4. PAN NO. :
5. Agency commission included in
quoted prices as % of quoted FOB
prices (payable in equivalent Indian
rupees upon receipt of acceptance
of items at site) : % In Figures and Words
- a. Relationship (Whether Agent /
Consultant/ Representative/ Retainer
/ Associates) :
- 11 Account No. In Any SBI/HDFC/ICICI
Branch which having E-Banking
Facilities of Indian Agent :
- 12 Branch Code and Account Code :

(Payment towards IAC shall be released through e-banking only)

Note: Copy of agreement between principal and agent to be enclosed with _____ the bid.

Place:

Authorized Signature

Date:

Name and Designation

Office Seal



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X. Commercial Check List

SI No.	Description	Response Yes/No
1	BEC Documentary Evidence	
2	Priced Bid	
3	Un priced bid	
4	Price Schedule	
5	Delivery Period	
6	Bid validity	
7	EMD	
8	Tender Cost	
9	Bank Guarantee	
10	B&ID for equipment	



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XI. Scope of Contract

1. General

1. Scope of contract shall be as defined in the Purchase Order and Technical Specifications, Drawings and Annexure.
2. Completeness of the equipment shall be the responsibility of the supplier. Any accessories not specifically mentioned in the specifications, but necessary for the satisfactory functioning of the equipment shall be provided by supplier without any extra cost.
3. Supplier shall follow the best modern practices in the manufacture of equipment notwithstanding any omission in the specifications. The true intent and meaning of these documents is that supplier in all respects, design, engineering, manufacture and supply of the equipment in a thorough manner and supply the same within time to the entire satisfaction of FCRI.
4. Supplier shall furnish 2 (two) copies of Technical documents, final drawings, preservation instructions, operation and maintenance manuals, test certificates, spare parts catalogues for all equipments etc. in English to Fluid Control Research Institute.
5. Documents once submitted shall be firm and final and not subject to subsequent changes. Supplier shall be responsible for any loss to FCRI consequent to furnishing of incorrect data/drawings.
6. All dimensions and weight should be in metric system.
7. All equipment to be supplied and work to be carried out shall conform to and comply with the provisions of relevant regulations/Acts as may be applicable to the type of equipment/work carried out and necessary certificates shall be furnished.
8. Supplier shall provide cross sectional drawings, wherever applicable, to identify the spare part numbers and their location. The size of bearings, their make and number shall be furnished, if applicable.
9. Specifications, design and drawings issued to the supplier are not soled or given but loaned. They remain property of FCRI. Supplier and his employees shall not make use of the drawings, specifications and technical information for any purpose at any time except for manufacture against and shall not disclose the same to any person, firm or corporate body.
10. Supplier shall pack, protect, mark and dispatch equipment as per instructions given in the contract.

2. Standards

Equipment supplied under the CONTRACT shall conform to the standards mentioned in the Technical Specifications, or such other standards which ensure equal or higher quality.

3. Use of Contract Documents

Supplier shall not, disclose the Contract or any provision thereof, or any specification, plan, drawing, pattern, sample or information furnished therewith, to any person other than a person employed by the supplier in the performance of the Contract. Disclosure to any such person shall be made in confidence and shall extend only so far as may be necessary for purpose of such performance.

4. Modification

1. Modifications with respect to technical and/or commercial aspects including terms of delivery shall be considered valid only when accepted in writing by FCRI.
2. FCRI shall not be bound by any printed conditions or provisions in the supplier's Bid Forms or acknowledgment of Contract, invoices, packing list and other documents which purport to impose any conditions at variance with or supplemental to Contract.

5. Patent Rights, Liability & Compliance of Regulations

1. All patent rights of developed product through this order belongs to FCRI
2. Supplier hereby warrants that the use of equipment will not infringe claims of any patent and supplier agrees to be responsible for and to defend at his sole expense all suits and proceedings against FCRI based on any such alleged patent infringement and to pay all costs, expenses and damages which FCRI may have to pay or incur by reason of any such suit or proceedings
3. Supplier shall indemnify FCRI against all third party claims of infringement of patent, trademark or industrial design rights arising from use of the equipment. Supplier shall also protect and fully indemnify FCRI from any



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claims from supplier's discretion for any acts of commissions or omission while executing the Contract. Supplier shall be responsible for compliance and shall protect and indemnify completely FCRI from any claims/penalties arising out of any infringements.

6. Inspection & Testing

1. FCRI shall have the right to inspect and/or to test the Equipment for conformity to specifications.
2. Inspections and tests may be conducted at supplier premises or his subcontractor, delivery point. Facilities and assistance including access to the drawings and production data shall be furnished to the inspectors at no charge.
3. FCRI may reject any inspected or tested equipment fail to conform to the specifications and supplier shall either replace or make necessary alterations to meet specifications requirements at free of cost.
4. FCRI has right to inspect, test and reject the equipment after the equipment arrival at FCRI. It will not be limited or waived by reason of the equipment having previously been inspected, tested and passed by FCRI, or their representative prior to the equipment shipment.
5. FCRI shall follow the progress of the manufacture of the equipment to ensure that the requirements are not being deviated with respect to schedule and quality.
6. Supplier shall allow FCRI to visit, during working hours, the workshops relevant for execution during the entire period of validity.
7. In order to enable FCRI's representatives to obtain entry visas in time, SUPPLIER shall notify FCRI two months before assembly, testing and packing of main equipment. If requested, supplier shall assist FCRI's representatives in getting visas in the shortest possible time (applicable only in case of foreign order).
8. Supplier shall place at the disposal of FCRI, free of charge, with all tools, instruments, and other apparatus necessary for the inspection and/or testing of the equipment. FCRI is entitled to prohibit the use and dispatch of equipment and/or materials, which have failed to comply with the characteristics required for the equipment during tests and inspections.
9. Supplier shall advise in writing of any delay in the inspection schedule with reasons for delay and the proposed corrective action.
10. All tests and trials in general, including those to be carried out for materials not manufactured by supplier shall be witnessed by FCRI. Therefore, supplier shall confirm to FCRI by fax or e-mail about the exact date of inspection with at least 30 days notice. Supplier shall specify the equipment and quantities ready for testing and indicate whether a preliminary or final test is to be carried out.
11. FCRI should waive the right to witness the test; timely necessary information will be given accordingly.
12. Any and all expenses incurred in connection with tests, preparation of reports and analysis made by qualified laboratories, necessary technical documents, testing documents and drawings shall be at supplier's cost. The technical documents shall include the reference and numbers of the standards used and wherever deemed practical by FCRI, copy of such standards.
13. Arrangements for all inspections required by Indian Statutory Authorities and as specified in technical specifications shall be made by supplier.

7. Rejection of Equipment

1. When equipments/materials are rejected, the supplier shall be intimated with the details of such rejected equipments/materials, reasons, and location. Supplier shall remove the item or give instructions as to dispose within 15 days. In the case of dangerous, infected and perishable materials within 48 hours, failing which FCRI will either return the materials to the contractor freight to pay or otherwise dispose at the contractor's risk and cost. FCRI shall



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be entitled to recover handling and storage charges for the period of not removed, @ 5% of the values of materials for each month or part of a month till the rejected materials are finally disposed off.

2. Inspection at supplier's works by FCRI shall not prejudice FCRI's claim for rejection of the equipment on final inspection at FCRI
3. If equipments are not of specification or fail to perform specified duties, FCRI shall reject the equipment and ask free replacement at supplier's cost and risk.
4. Equipment rejected shall be removed by the Supplier at his cost within 15 days of notice after repaying the amounts received against the supply. FCRI shall in no way be responsible for any deterioration or damage to the equipment under any circumstances whatsoever.
5. In case of rejection, FCRI shall have the right to recover the amounts, if any, from any of invoices.

8. Time Schedule

1. Supplier shall submit to FCRI, his time schedule regarding documentation, manufacture, testing, supply, erection and commissioning of the Equipment.
2. The time schedule shall be in the form of network/a bar chart clearly indicating all main or key events as above.
3. FCRI shall have the right to inspect supplier's premises a view to evaluate the actual progress of work on the basis of supplier's time schedule documentation.
4. Supplier shall advise FCRI, at the earliest possible date of any anticipated delay in progress.
5. In case progress at various stages are not as per phased time schedule and are not satisfactory. FCRI may give notice of the same in writing to the supplier to make good the failure, neglect or contravention. Should supplier fail to comply with such notice FCRI shall have the option and be at liberty to take the contract wholly or in part out of the supplier's hand and make alternative arrangements to obtain the requirements and completion of contract at the supplier's risk and cost and recover from the supplier all extra cost incurred by FCRI on this account. In such event FCRI shall not be responsible for any loss, supplier may incur and shall not be entitled to any gain. FCRI shall, in addition, have the right to encash Performance Guarantee in full or part.

9. Delivery

1. Delivery of the equipment shall be made by the supplier in accordance with terms and shall remain at the risk of the supplier until delivery has been completed.
2. Delivery shall be deemed to have been made,
 - a) In case of FOB, CFR & CIF, when the Equipments have been put on board the Ship/Aircraft and a clean Bill of Lading/Airway Bill are obtained.
 - b) In case of FOT site (for Indian bidders) on receipt of Equipment by FCRI.
3. Delivery terms are binding and essential and consequently, no delay is allowed without the written approval of FCRI. Any request concerning delay will be void unless accepted by FCRI.
4. Delivery time shall include time for submission of drawings for approval, incorporation of comments, if any, and final approval of drawings by FCRI. It shall be deemed to be the essence of the contract.

10 Transportation

1. Where the supplier is required to deliver the equipment FOB, transport of the equipment shall be arranged and paid for by the SUPPLIER and the cost thereof shall be included in the bid.



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2. Where the supplier is required to deliver the equipment CFR or CIF, transport of the Equipment shall be arranged and paid for by the supplier and the cost shall be included in the bid.

11 Incidental Services

1. Supplier shall furnish tools for assembly and maintenance for performance/supervision and start-up of equipment.
2. Furnishing tools for assembly and/or maintenance.
3. Performance/supervision/maintenance/repair of the supplied Equipment, for a period time agreed, provided that this service shall not relieve the supplier of any warranty/guarantee obligations under the contract.
4. Training of FCRI's personnel at the supplier's plant and/or at site, in assembly, start-up operation, maintenance and/or repair at no extra cost. However, FCRI will bear boarding, lodging & personal expenses of trainees.
5. Supplier shall depute necessary personnel for supervision and/or erection of the Equipment at site for duration to be specified by FCRI on mutually agreed terms.
6. Supplier's personnel shall be available at site within seven days for emergency action and twenty-one days for medium and long-term assistance, from the date of notice given by FCRI.
7. Cost of applicable incidental services shall be shown separately in the price schedules.

12 Spare Parts and Accessories

1. Supplier shall furnish a list of recommended spares and accessories for the equipment required during start-up and commissioning. Supplier shall furnish a list of recommended spares and accessories, if required during the warranty period. Supplier shall quote for spares & accessories as per Material Requisition.
2. In the event of termination of production of the spare parts:
 - i) Advance notification to FCRI of the pending termination, in sufficient time to permit FCRI to procure needed requirements, and
 - ii) Following such termination, furnishing at no cost to FCRI, the blue prints, drawings and specifications of the spare parts, if any when requested.
3. Supplier shall supply item wise list with value of spare parts and maintenance tools requirements, along with full details of manufacturer/vendor for such spares/maintenance tools.
4. Spare parts shall be new and of first class quality as per engineering standards/ codes free of any defects deficiency in design, materials and workmanship and also shall be completely interchangeable with the corresponding parts.
5. Type and sizes of bearings shall be clearly indicated.
6. Spare parts shall be packed for long storage under tropical climatic conditions in suitable cases, clearly marked as to intended purpose.
7. A list of special tools required for normal maintenance and special handling and lifting appliances, if any, for the Equipment shall be submitted to FCRI.

13 Insurance

1. Equipment shall be fully insured in a freely convertible currency against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery.
2. Where delivery is on FOB or CFR basis, marine insurance shall be the responsibility of FCRI.

Insurance Requirements:



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- Indigenous Bidders : Transit risk insurance shall be arranged and borne by FCRI.
Foreign Bidders : Marine insurance as well as transit insurance in India shall be arranged and borne by FCRI.

14 Guarantee

1. Supplier shall supply the Equipment or Materials strictly in accordance with the specifications, drawings, data sheets, other attachments and conditions. No deviation from such specifications or alterations or of these conditions shall be made without written permission of FCRI, which must be obtained before any work. Equipment, irrespective of whether engineering, design data or other information has been furnished, reviewed or approved by FCRI/shall be guaranteed to be of the best quality and shall be free from faulty design, workmanship and materials, and to be of sufficient size and capacity and of proper materials so as to fulfill in all respects all operating conditions,
2. Supplier shall make alterations, repairs and replacements for any trouble or defect originating with the design, material, workmanship or operating characteristics of any materials arises at any time prior to twelve (12) months from the date of the commissioning or twenty four (24) months from the date of last shipment whichever period shall first expire, at his own expense and as promptly as possible. It may necessary to permit the materials to function in accordance with the specifications and to fulfill the forgoing guarantees. Supplier shall be guarantee for repaired or replaced materials/items for a period of not less than twelve (12) months from the date of repair/ replacement. In the event that the materials supplied do not meet the specifications and/or not in accordance with the drawings data sheets or the terms of the Contract and rectification is required at site, FCRI shall notify the SUPPLIER giving full details of differences. The supplier shall attend the site within seven (7) days of receipt of such notice to meet and agree with representatives of FCRI, the action required to correct the deficiency. Should the supplier fail to attend, FCRI shall immediately rectify the work/materials and supplier shall reimburse to FCRI all costs and expenses incurred in connection with such trouble or defect.
3. Supplier shall guarantee that the performance of the equipment shall be in conformity with the specifications and shall perform the specified duties.
4. If the supplier fails, he shall investigate the causes and carry out necessary rectifications/modifications to achieve the guaranteed performance. In case the supplier fails to do he shall replace the equipment and prove guaranteed performance of the new equipment without any extra cost.
5. If the supplier fails to prove the guarantee, FCRI shall take over the equipment and rectify, if possible, to fulfill the guarantee. All expenditure incurred by FCRI shall be to supplier's account.

15 Subletting & Assignment

The contractor shall not without previous consent in writing of FCRI authority, sublet, transfer or assign the contract or any part thereof or interest therein or benefit or advantage thereof in any manner whatsoever. Provided, nevertheless, that any such consent shall not relieve the contractor from any obligation, duty or responsibility under the contract.

16 Termination

1. If the supplier fails to deliver the equipment within the time specified, If the supplier fails to perform any other obligation and If the supplier does not cure his failure within a period of 30 days after receipt of the default notice, FCRI may terminate the contract in whole or in part.
2. FCRI shall procure equipment similar to those undelivered and the supplier shall be liable to FCRI for any excess costs. However, supplier shall continue performance of the contract to the extent not terminated.
3. In case of termination of contract, FCRI shall not be issued any type of enquiry to the party for three years from the date of termination.
4. Termination for Insolvency FCRI may at any time, terminate the contract by giving written notice to the supplier, without compensation to the supplier, if the supplier becomes bankrupt or otherwise insolvent, that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to FCRI.



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17 Force Majeure

1. Force Majeure shall be limited to
 - a) War/hostilities
 - b) Riot or Civil commotion
 - c) Earthquake, flood, tempest, lightening or other natural physical disaster.
 - d) Restrictions imposed by the Government or other statutory bodies
2. Supplier shall inform FCRI duly certified by the local chamber of commerce or statutory authorities, causes of delay within seven days of the occurrence and cessation of such Force Majeure Conditions. FCRI reserves the right to cancel the contract if the delay lasting over one month.
3. Supplier shall specify the extent of Force Majeure Conditions prevalent in their works at the time of submitting their bid and shall take into consideration in bid. In the event of Force Majeure cause, the supplier or FCRI shall not be liable for delays in performing their obligations and delaying period will be extended.

18 Resolution of Disputes/Arbitration

1. FCRI and supplier shall make every effort to resolve amicably by direct negotiations any disagreement or dispute
2. If FCRI and the supplier have been unable to resolve amicably within thirty days, either party may require that the dispute be referred for resolution to the formal mechanism.
3. The Contract shall be construed and operated as an Indian Contract in accordance with Indian Laws as in force for the time being and is subject to and referred to Indian Court.

19 Arbitration

1. All disputes, controversies, or claims between the parties, where the decision of the Engineer-in-Charge is deemed to be final and binding, which cannot be mutually resolved time shall be referred to Arbitration. FCRI shall suggest a panel of three independent and distinguished persons to select one to act as the sole Arbitrator. In the event of failure of the Supplier to select within 30 days, FCRI shall have discretion to proceed with the appointment of the Sole Arbitrator. The award of the Sole Arbitrator shall be final and binding on the parties and unless directed/awarded otherwise by the Sole Arbitrator, the cost of arbitration proceedings shall be shared equally by the parties.
2. The arbitration proceeding shall be in English and the venue shall be at Palakkad, Kerala India. Subject to the exclusive jurisdiction of the Courts situated in the State of Kerala, India.
3. The work shall continue during the Arbitration proceedings and no payment shall be withheld during arbitration.

20 Notices

1. Any notice given by one party to the other shall be sent by email and confirmed by fax.
2. A notice shall be effective when delivered or it's effective date, whichever is later.

21 Taxes & Duties

1. Foreign Supplier is entirely responsible for taxes, stamp duties, license fees, and other such levies imposed in foreign country.
2. Indian supplier shall be entirely responsible for all taxes, licence fees etc. incurred until the delivery of equipment to FCRI. FCRI is permitted Excise duty exemption with reference to Govt. Notification No. 10/97-Central Excise dated 1st March 1997. If Excise duty is applicable, the same may be indicated separately.



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- FCRI is permitted for claiming Customs Duty exemption through our duty free passbook, on Equipment/Spare parts/Accessories and Consumables imported, with reference to Govt. Notification No. 51/96-Customs dated 23rd July 1996.
- Income tax payable for services rendered by supplier shall be as per the Indian Income Tax Act and shall be borne by supplier. Bidder/supplier shall ascertain the amount of these taxes and to include them in bid price.

22 Books & Records

- Supplier shall maintain adequate records and shall make them available for inspection and audit by FCRI or their authorized agents or representatives during the terms of Contract until expiry of the performance guarantee.

23 Permits & Certificates

- Supplier shall procure all necessary permits, certificates and licenses required by virtue of all applicable laws, regulations, ordinances and other rules in effect at the place where any of the work is to be performed, and supplier agrees to hold FCRI harmless from liability or penalty which might be imposed by reason of any asserted or established violation of such laws, regulations, ordinances or other rules.
- Mill test certificates relevant to chemical analysis and mechanical properties of the materials used for equipment construction as per the relevant standards.
- Test certificates on hydrostatic and pneumatic tests in case of valves and actuators
- Test reports on radiograph and ultrasonic inspection.
- Test report on operation of equipment conforming to specification.
- Test reports and certificates as required by API 6D and this specification.

The certificates shall be valid only when signed by FCRI and certified equipments shall be dispatched to FCRI.

24 General

- Losses due to non-compliance of Instructions:
Losses or damages occurring to FCRI owing to the supplier's failure to adhere to any of the instructions shall be recoverable from the supplier.
- All costs, damages or expenses which FCRI may have paid, for which supplier is liable, may be recovered by FCRI from any money due to or becoming due to the SUPPLIER under this Contract. If the same due to the SUPPLIER be not sufficient to recover the recoverable amount, the SUPPLIER shall pay to FCRI, on demand, the balance amount.
- No sum paid by FCRI nor any extension of the date for completion granted by FCRI shall affect or prejudice the rights of FCRI against the supplier or relieve the supplier of his obligation for the due fulfillment of CONTRACT.
- No claims or correspondence shall be entertained by FCRI after 90 days after expiry of performance guarantee

25 Fall Clause

- Price charged for equipment/materials supplied under the order shall in no event exceed the lowest price at which the supplier or his agent/principal/dealer sells the equipments/materials of identical description to any organization/department of the Central Govt./Deptt. Of a State Govt./Statutory Undertaking of the Central/State Govt. as the case may be, during the currency of the order.
- If the supplier/agent/principal/dealer reduces the sale price, he shall notify such reduction the FCRI.
- Supplier shall furnish the following certificate to FCRI alongwith each bill for payment for supplies made against this order:- "We certify that there has been no reduction in sale price of the items/Equipment/materials of description



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identical to those supplied to FCRI under the order herein and such items/Equipment/materials have not been offered/sold at a price lower than the price charged to FCRI under the order”.

26 Publicity & Advertising

1. Supplier shall not make a reference to FCRI or any Company affiliated with FCRI or to the destination or the description of Equipment or services supplied under the contract in any publication, publicity or advertising media without the written permission of FCRI.

27 Re-order

1. FCRI reserves the right to repeat order upto 50% of the total order value without any change in unit price or other terms and conditions within 6 months of first order.

28 Limitation of Liability

1. **Total liability of supplier under the Agreement shall be limited to 100% of Agreement / Order price. However, neither party shall be liable to the other party for any indirect and consequential damages, loss of profits or loss of production.**



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XII. General Rules and Directions for Guidance

1. Bid Submission

1. Tenders shall be submitted in sealed covers superscribing the Tender Number and name of the work due date and nature of bid (priced or unpriced), and addressed legibly to officer inviting the tender. Full name and address of the tenderer should be written on the envelope as well as on the tender below the signature.
2. All the pages of the tender documents and any other enclosures submitted by the tenderer must properly signed or initialed and dated on each page, and also signed and dated at the places mentioned in the documents by the tenderer or such person or persons on his behalf as are legally authorized or required to sign for the tenderer. The tenderer shall in particular satisfy the Institute that he is competent and authorized to submit the tender and to enter into a legally binding contract with the Institute on behalf of himself, his firm, Company or Corporation as the case may be. A person signing the tender or any document forming part of the tender on behalf of another shall be deemed to warrant that he has the requisite authority of sign for other, and if, on enquiry, it appears that the person so signing has no authority to do so, the Institute may, without prejudice to any other Civil and Criminal remedies, cancel the contract and hold the signatory liable for all costs and damages.
3. Schedule of quantities and rates should be carefully and properly filled in. All rates should be indicated in words as well as in figures. Erasures and alterations in the tender documents should be avoided. If any corrections are necessary the original entry should be scored off and new entry legibly made duly attested by the full signature of the tenderer with date. Failure to do so may cause rejection of the tender by the Institute at its discretion. Any statement and/or letters signed separately and issued to the Institute either before or after the tender may not be considered.
4. In case of firms, all partners of the firm or such person or persons as may be legally competent to sign for the firm should sign the tender documents. In case of company, the official seal of the company should be affixed in the tender documents and should be signed by such person(s) as may be authorized by the articles of Association of the Company to sign for and on behalf of the Company. A copy of the Articles of Association should be sent with the tender. In any case, the tenderer should disclose his constitution and copies of all necessary legal documents in support thereof such as the duly registered partnership deed in the case of partnership firm should be produced as and when called for by the Institute.
5. Each tenderer shall submit a declaration as to whether he is an individual, firm or Association of firms, Company or Corporation and has the requisite organization including technical and other personnel and financial and other resources to handle the work. Full information, supported by documentary evidence shall be furnished by the tenderer in regard to the following among other things so as to demonstrate his ability to undertake the work as specified.
 - a) In the case of firm, company or corporation
 - i. The legal name, the nature of business and the date and place of registration (including the state of incorporation where it is a corporation).
 - ii. The authorized, subscribed and paid up capital.
 - iii. The names and addresses of all the Directors including those of the Chief Executive Officer, President, Secretary or the person authorized to bind the firm, company or corporation in the matter.
 - b) Tenderer shall include the names and addresses of all the partners in case of partnership.
 - c) If the tenderer is an association of firms, the details of all participating firms shall be shown in tender.
 - d) In the case of Indian Agent of a Foreign Organization, percentage of commission payable to Indian Agent, copy of agency agreement with Foreign Organization and certificate of enlistment with DGS&D under compulsory registration scheme of Ministry of Finance.

The Institute will be the sole judge as to the merits of the tender's ability to perform the work. Non-submission of documentary evidence of any of the aforementioned aspects may render the tender liable to summary rejection.



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6. Total amount of tender should be written in the same language that the tender signed.
7. The specified amount of Earnest Money must be deposited either by a Demand Draft crossed "Account payee" drawn in favour of "Fluid Control Research Institute" payable at Palakkad 'or' Bank for the same amount. The EMD should be enclosed with the Technical Bid. *Cheque will not be accepted.*
8. The Earnest Money of the successful tenderer will be retained towards 'Security Deposit' and in the case of others, will be returned on application after finalization of the purchase.
9. The Earnest Money shall be liable to be forfeited without prejudice to the other rights and remedies of the Institute in the event of the tenderer failing (a) to keep his tender valid and open for acceptance by the Institute for and during the period of three months reckoned from the date of opening of tenders; or (b) to furnish, the requisite documents, etc. within the specified time.
10. The Security Deposit shall liable to be forfeited without prejudice to the other rights and remedies of the Institute if the successful tenderer is failing to accept the purchase order placed by the Institute, within 15 days of its issue. The Institute shall also have the right to forfeit the Security Deposit in case the suppliers fail to execute the order as per the terms & conditions of the order.
11. Should the tenderer have relative or relatives, or in the case of a firm or company or contractors, one or more of its shareholders employed in any capacity in the Institute, the tenderer should furnish complete information to that effect at the time of submission of the tender.
12. Tenders which do not fulfill all or any of the above conditions or incomplete in any respect are liable to be rejected.
13. The right of accepting any tender or rejecting any or all tenders without assigning any reason is reserved.
14. Tenderer should be enclosed Sales tax and Income tax clearance certificates along with the tender.
15. FCRI has standard payment terms (ie) 100% of the material cost will be paid within 30 days from the date of supply, erection, commissioning and acceptance, and also in producing a Bank Guarantee for 10% of the value as performance guarantee valid for the guarantee period.
16. Tenderer can notify FCRI in writing or by faxing or by email for any clarification on documents. FCRI will respond in writing to any request for clarification on bidding documents within 5 days prior to the deadline for the submission of bids. FCRI's response will be sent to all prospective bidders who have downloaded bidding documents.
17. At any time prior to the bid due date, FCRI may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the bidding documents, by issuing addenda.

Any addendum thus issued shall be part of the Bidding Documents pursuant to ITB Clause-5.1 and shall be notified in writing by fax/post to all prospective bidders. Prospective bidders shall promptly acknowledge receipt of each addendum by post, fax and email to FCRI.
18. We shall extend the bid due date in order to allow prospective bidders, a reasonable time to furnish their most competitive bid considering the amendments issued.

2 Documentation

Documentation shall be delivered in due time, in proper form and in the required number of copies as specified, in English.

Vendor shall submit the following documents during the submission of bid:

In pursuant to ITB Clause 9, the bidder shall furnish, as a part of the bid, document establishing the eligibility and conformity to the bidding documents of all equipment and services, which the bidder proposes to supply under the Contract.



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Description of the essential technical and performance characteristics of the Equipment and a clause-by-clause commentary on FCRI'S Technical specifications demonstrating the Equipment and services' substantial responsiveness to the specifications.

General arrangement / assembly drawings showing all features and relative positions and sizes of vents, gear operator / actuator, painting, coating and other external parts together with overall dimensions.

Sectional drawing showing major parts with reference numbers and material specification and a blow-up drawing of ball-seat assembly shall be furnished complying the requirement of this specification.

For purpose of the commentary the bidder shall note that standards for workmanship, material and equipment, and reference to brand names or catalogue numbers, designated by FCRI in its Technical Specifications are intended to be descriptive only and not restrictive.

The drawings to be submitted shall be in total compliance with the requirement of technical specification and data sheets of equipment with no exception & deviation.

Detailed sectional arrangement drawings showing all parts with reference numbers and material specifications as referred above.

Assembly drawings with overall dimensions and features. Complete dimensional details of support foot (where applicable) shall be indicated in these drawings as referred applied on the equipment.

Manufacture of equipment shall commence only after approval of the above documents. Once the purchaser has given the approval, any changes in design, material and method of Manufacturer shall be notified to FCRI whose approval in writing of all changes shall be obtained before the item is manufactured.

3. Withdrawal and Modification of Tender

Bidder can modify or withdraw his bid after the bid submission, but before the due date of submission provided that the written notice of the modification, including substitution or withdrawal of the bid is received by FCRI prior to the due date for submission of bids.

Bidder's modification or withdrawal notice shall be prepared, sealed, marked and delivered in accordance with the provisions of ITB Clause-20, with the envelopes marked "modification" or "withdrawal" as appropriate. A withdrawal notice may also be sent by fax/post, but followed by a signed confirmation copy post marked not later than due date for submission of bids.

No bid shall be modified after the due date for submission of bids.

No bid shall be allowed to be withdrawn in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the bidder on the Bid Form. Withdrawal of a bid during this interval shall result in the bidder's forfeiture of his bid security.

4. Process Confidentially

Information relating to the examination, clarifications, evaluation and comparison of bids and recommendations for the order, will not be disclosed to bidders or any other person officially concerned with. FCRI requires that Bidders/Suppliers observe the highest standard of ethics during the procurement and execution of the order. In pursuance of this policy, FCRI defines for the purposes of this provision

5. Contacting FCRI

From the time of the bid opening to the time of the release of order, if any bidder wishes to contact FCRI for any matter relating to the bid, he should do so in writing.

6. Conversion To Single Currency



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To facilitate evaluation and comparison, FCRI will convert all bid prices expressed in the amounts in various currencies to Indian Rupees at the bills selling exchange rate declared by the State Bank of India on the day prior to price bid opening.

7 Supply & Advance Notice

Mode of transport shall be through road only.

Immediately on dispatch, Supplier shall send advance information of dispatch particulars, by way of fax message to the following, giving details of Transport, LR no. its date, Invoice No., Date & value, No. of cases, gross weight, contents, etc. to M/s. Fluid Control Research Institute, Kanjikode west, Palakkad, Kerala, India – 678 623, Phone: 91 0491 2566120, 2566206 Fax No. 91 0491 2566326.

Supplier shall ensure that transmission of dispatch documents are arranged in accordance with the contract terms. In case of delay in clearance due to non-availability of documents shall be the responsibility of supplier & will be liable to bear expenses incurred on account of demurrage, wharfage etc.

8 Preparation of Despatch Documents

All documents including LR, packing-list, Invoice etc. shall be in English. LR Invoice and packing list specifically must show, Mark & No., contents, case wise, consignee, final destination and all other particulars. The packing list must also show the actual contents in each case, net & gross weights and dimension with number of packages. The invoice must show item wise price break –up.

One set of Despatch Documents should include the following documents.

- i) LR (original)
- ii) Invoice in Triplicate
- iii) Packing List in Triplicate
- iv) Manufactures test certificates/inspection note, warranty to Quality Certificates and any other document as specified in Purchase order

9 Shipping (For Foreign Bidders)

Equipment packing

Equipment packing shall be strong and sturdy. Don't frail the packing that may cause to damage the equipment when loading/unloading, pushing and crane lifting etc. supplier is responsible for any damages occurred while shipping the equipment. All packaging shall be done so as to minimize volume and weight as much as possible without jeopardizing the safety of the material. All packing materials shall be new and shall be of packer's standard for export shipments. Fragile articles should have special packing materials depending on type of materials.

Surface of equipment shall be thoroughly cleaned, freed from rust and grease and applied with sufficient coats of corrosion resistant paint. Surface preparation shall be carried out by shot blasting to SP-6 in accordance with "Steel Structures Painting Council – Visual Standard SSPC-IS-1". Manufacturer shall indicate the type of corrosion resistant paint used, in the drawings submitted for approval. Sealant lines and cavities of the valve shall be filled with sealant before shipment.

All mechanical and electrical equipment and other heavy articles should be securely fastened to the bottom of the case, to avoid damage.

All packages requiring handling by crane should have sufficient space at appropriate place to put sling of suitable dia (strength). Irons/steels angle should be provided at the place where sling markings are made to avoid damage to package/equipments while lifting.



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Attachments and spare parts of equipments and all small pieces shall be packed separately in wooden cases with adequate protection inside the case and sent along with main equipment. Each item shall be tagged so as to identify it with the main equipment and part number and reference number shall be indicated.

All protrusions shall be suitably protected and openings shall be blocked by wooden/steel covers. All threaded fittings and pipes should be greased and provided with plastic caps

Wherever required equipments/materials shall be packed in polythene bags and silica gel or similar dehydrating compound shall be put inside the bags.

Detailed case wise packing list in waterproof envelope shall be inserted in each package together with equipment/material. One copy of 'Detailed Packing List' shall be fastened outside of the package in waterproof envelope and covered by metal cover. In case of bigger dia pipes and large equipments, documents contained in the envelope shall be fastened inside a shell connection with an identifying arrow sign 'Documents' applied with indelible paint.

10 Marking on Equipment.

Following markings are required shall appear on three sides of each package with proper paint/indelible waterproof ink for air / sea transportation.

Name, Address and trademark of Supplier	:	
For	:	Fluid Control Research Institute.
Airport/Port of despatch	:	
Airport/Port of destination	:	
P.O.No.	:	
Item Description	:	
Net weight	:	
Gross weight	:	
Case No.	:	
(No. of total cases)	:	
Dimension	:	
Order Number	:	
Equipment Size and Rating	:	
Tag Number	:	
Serial Number	:	
Body Material Designation (MSS-SP-25)	:	

Important

Most appropriate and suitable packing for economical air/sea freight applicability, and shipping documentation, flight/shipment invoice and AWB/bill of lading & other documents as per normal practice shall be enclosed.

11 Disposal of Shipping Documents

Sea Shipments

The supplier shall prepare the complete shipping documents in all respects including three original stamped copies of Bill of Lading and courier the same as under :

- Three copies of original bill of lading with one non-negotiable copy of bill of lading along with three copies each of original (a) invoice, (b) packing list, and (c) all other documents as specified in L/C shall be forwarded / negotiated through Beneficiary's Bank to L/C Opening / Issuing Bank.
- One set of non-negotiable shipping document as mentioned towards "M/s Fluid Control Research Institute Kanjikode west, Palakkad, Kerala, India – 678 623, Phone: 91 0491 2566120, Fax No. 91 0491 2566326" to facilitate in pre-assessment of Custom Duty & other necessary formalities at Indian Port before arrival of consignment for speedy clearance of same.



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- iii) A set of non-negotiable shipping document as mentioned towards “M/s Fluid Control Research Institute Kanjikode west, Palakkad, Kerala, India – 678 623, Phone: 91 0491 2566120, Fax No. 91 0491 2566326” for advance information, scrutiny of documents (discrepancy, if any) & co-ordination.

12 Air Shipments

Supplier shall prepare complete shipping documents including three original stamped copies of MAWB/HAWB/AWB and courier the same as under: -

- i) Three copies of original AWB with one copy of non-negotiable AWB along with three copies each of original (a) invoice, (b) packing list, and (c) all other documents as specified in L/C shall be forwarded / negotiated through Beneficiary's Bank to L/C opening / Issuing Bank.
- ii) One set of non-negotiable shipping documents towards “M/s Fluid Control Research Institute, Kanjikode west, Palakkad, Kerala, India – 678 623, Phone: 91 0491 2566120, Fax No. 91 0491 2566326” to facilitate in pre-assessment of Custom Duty & other necessary formalities at Indian Port before arrival of consignment for speedy clearance of same.
- iii) One set of non-negotiable shipping documents towards “M/s Fluid Control Research Institute, Kanjikode west, Palakkad, Kerala, India – 678 623, Phone: 91 0491 2566120, Fax No. 91 0491 2566326” for advance information, scrutiny of documents & co-ordination.

13 Short Supply

Supplier should thoroughly check all items in the packing before effecting shipment. If any item(s) are found short packed in sound boxes on examination at project site, Supplier shall be responsible to supply short packed items free of charge on receipt of advice from FCRI. Supplier shall also be responsible to bear the import duty levied by Indian Customs on such short packed items.

14 Shipping Instruction (For Domestic bidders)

Marking

Supplier shall dispatch the consignment in road transport worthy packing conforming to the prescribed current standard. Packing should withstand journey & ensuring the safety to en-route & also arrival of equipment at ultimate destination in good condition.

Following marking shall appear on packing on outer side:

Name, Address and trade mark of Supplier	:	
For	:	Fluid Control Research Institute
Origin of Equipment	:	
Equipment Destination	:	
Consignee	:	
Order No.	:	
Item	:	
Net Weight	:	
Gross Weight	:	
Cases No.	:	
No. of total cases	:	
Dimension	:	
Order Number	:	
Equipment Size and Rating	:	
Tag Number	:	
Serial Number	:	
Body Material Designation (MSS-SP-25)	:	

15 Dispute

Any dispute regarding the Tender/Purchase Order shall be deemed to have arisen in Palakkad and only competent court in Palakkad will have jurisdiction.



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16 Overruling Clause

Not withstanding anything stated anywhere in this document, the Director FCRI has the power to revise/add/review/delete/modify any of the conditions/statements indicated therein.



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XIII. Award of Contract

1. Post Qualification

In the absence of pre qualification, FCRI will determine to its satisfaction whether the lowest bidder is qualified to satisfactorily perform the contract.

The determination criteria will be bidder's financial, technical and production capabilities as well as such other information as FCRI deems necessary and appropriate.

Affirmative determination will be a prerequisite for award of contract to the bidder. A negative determination will result in rejection of the bidder's bid.

2. Award Criteria

FCRI will award the contract to Bidder whose bid has been determined as responsive and has been determined to be the lowest evaluated bid, provided further that the Bidder is determined to be qualified to perform the contract satisfactorily.

3. Change in Quantities

FCRI reserves the right at the time of award of ORDER to increase or decrease by upto 15% the quantity of EQUIPMENT/Item specified in the Material Requisition, without any change in unit price or other terms and conditions. Variation beyond this limit will be subject to mutual agreement between FCRI and the Supplier.

4. Corrupt or Fraudulent Practices

"Corrupt practice" means the offering, giving, receiving or soliciting of any thing of value to influence the action of official in the procurement process or in contract execution. Any effort by a bidder to influence FCRI in any manner in respect of bid evaluation or award will result in the rejection of that bid.

"Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of FCRI, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive FCRI of the benefits of free and open competition;

FCRI will reject a proposal for award of it determines that the bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question. FCRI will declare a firm ineligible, either indefinitely or for a stated period of time, if at any time FCRI determines that the firm has engaged in corrupt or fraudulent practices in competing for or in executing a contract.



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IX Preambles To Schedule Of Quantities

1. Rates quoted shall include all the operations, materials, etc., mentioned in the specifications of respective items of work, schedule of quantities, the preambles and required to complete the job.
2. Rates quoted shall include all labour, materials, tools, plants, equipments and other sunderies etc, for workman like completion of work.
3. Rates quoted shall be firm and shall not be subject to any variation due to increase in labour wages, cost of materials etc. or any other price variation whatsoever either by act of Government or otherwise whether during the stipulated period of execution or during extended period of completion if any.
4. The works “as described”, “as specified”, “as shown”, “as directed” or “as approved” shall mean as described in the specifications, schedule of quantities and other tender documents, as shown on the drawings and as directed or as approved by the Engineer in-charge.
5. Your offer should remain valid for 90 days from the date of opening of tenders.
6. For the purpose of quoting the rates, you may treat it as a case where there is no “C” or “D” form.
7. The rate of taxes should be shown in the schedules and which should cover all taxes whatever form may be applicable and as prevailing on the date of quotation.
8. The central excise duty tariff item and the normal duty thereof should be indicated separately. We are permitted Excise Duty Exemption with reference to Govt. Notification No. 10/97-Central Excise dated 1st March 1997.
9. We are permitted Customs duty exemption with reference to Govt. Notification No. 51/96-Customs dated 23rd July 1996.
10. Any concession in excise duty/sales tax enjoyed by you should be clearly indicated in the covering letter.
11. In case the components as per our specification is not available, you may quote for the components of better specifications with clear indication of make, technical details etc. However such alternative components will be considered only on extraordinary circumstances.
12. Liquidated damages for delay beyond the agreed delivery and commissioning schedule @1% per week subject to maximum of 10% of the total order value will be applicable.
13. Failure to supply the materials as per delivery schedule is liable to result in cancellation of the order.
14. Descriptive leaflets, brochures, drawings etc. showing the details should invariably be attached with your quotation.
15. Declaration to the effect that the equipment supplied is original and is not reconditioned or refurbished items.

Note: Preambles apply to all the sections of the schedule of quantities and tendered rates shall take into account all these provisions in addition to various provisions in other parts of the tender documents.



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PRICE SCHEDULE

FLUID CONTROL RESEARCH INSTITUTE
KANJIKODE WEST – 678 623, PALAKKAD, KERALA
(Under Ministry of Heavy Industries & Public Enterprises – Govt. of India)
Phone: (91) 491-2566120 / 2566206 / 2569009 Fax: 2566326
E-mail: purchase@fcriindia.com, fcri@vsnl.com Website: <http://www.fcriindia.com>



Fluid Control Research Institute, Kanjikode West, Palakkad
Tender Document – Interactive design, development of motor
TENDER FORM

I/We hereby tender for the execution for.....
.....of the item specified in the under written memorandum within the
time specified in such memorandum at item rate entered in the schedule of quantities and in accordance in all respects
with the specifications and instructions in writing referred to in Tender Documents.

MEMORANDUM

- a) General Description :
- b) Estimated Cost :
- c) Earnest Money :
- d) Time allowed for the work from :
the date of written order to
commence.

Should this tender be accepted I/We hereby agree to abide by and fulfill all the terms and provisions of the General and Special conditions of contract so far as applicable or in default thereof to forfeit and pay to the Institute or its successors in office the sums of money mentioned in the said conditions. The sum of Rs.....(Rupees
.....) paid as Earnest Money is to be absolutely forfeited to the said Institute or its successors in office, without prejudice to any other rights or remedies of the said Institute or its successors in office, should I/We fail to satisfy the provisions contained in the relevant paragraphs of the tender forms.

**SIGNATURE AND ADDRESS
OF THE TENDERER**

DATED:



Fluid Control Research Institute, Kanjikode West, Palakkad
Tender Document – Interactive design, development of motor

From

To

M/s.

The Director
Fluid Control Research Institute
Kanjikode West – 678 623
Palakkad, Kerala.

Ref:

Sub: **INTERACTIVE DESIGN, DEVELOPMENT OF MOTOR**

Sl. No	Particulars	Amount	Remarks
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Items as per Technical specifications

Terms and conditions

We accept all terms and conditions listed in the Tender Documents.

Company's Rubber stamp:

Place:

Date:



Fluid Control Research Institute, Kanjikode West, Palakkad
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For Indigenous Supply

SI No	Item description	Qty.	Unit	Rate (Rs.)	Amount (Rs.)
1	Interactive design, development, manufacture, inspection, non-destructive testing of vertical mounted flanged motor of 350 kW rating with all accessories such as lubricating pumps etc, painting as necessary, works testing, protective packaging and delivery to the site of integrating agency	2	Set		
2	Accessories for the above if any	2	Set		
3	Mandatory Spares	2	Set		
4	Packing & Forwarding charges, if any				
5	Excise Duty @				
6	Sales Tax @				
7	Transportation charges				
8	Insurance				
9	Unloading charges at FCRI				
10	Erection and commissioning charges, if any				
11	Training for FCRI Engineers				
12	Other charges, if any				
Total Amount					

Notes: Full Sales Tax is applicable. Form 'C' or 'D' will not be issued.



Fluid Control Research Institute, Kanjikode West, Palakkad
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For Imports

SI No	Item description	Qty.	Unit	Currency	Rate	Amount
1	Interactive design, development, manufacture, inspection, non-destructive testing of vertical mounted flanged motor of 350 kW rating with all accessories such as lubricating pumps etc, painting as necessary, works testing, protective packaging and delivery to the site of integrating agency	2	Set			
2	Accessories for the above	2	Set			
3	Mandatory spares	2	Set			
4	FOB Charges (Including export crating charge)					
5	Freight charges (Ocean freight)					
6	Freight charges (If Airfreight)					
7	Insurance					
8	Total Amount – CIF Chennai/Cochin					
9	Erection and commissioning charges, if any					
10	Training for FCRI Engineers					
11	Other charges, if any					
Total Amount						